



STATE OF UTAH - DEPARTMENT OF ADMINISTRATIVE SERVICES  
**Division of Facilities Construction and Management**

**DFCM**

# **Request for Proposals for Construction Services**

Value Based Selection Method

February 5, 2009

## **EXHIBIT FABRICATION AND INSTALLATION UTAH MUSEUM OF NATURAL HISTORY UNIVERSITY OF UTAH SALT LAKE CITY, UTAH**

DFCM Project No. 02243750

Ralph Appelbaum Associates  
88 Pine Street, 29th floor  
New York, NY 10005

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Exhibit Design Narrative, dated December 19, 2008

Agenda – Non-Mandatory Pre-Proposal Meeting February 11, 2009

Attachments: The following attachments are available for viewing or downloading at the following web sites:

[http://dfcm.utah.gov/main.php?project\\_number=02243750-1](http://dfcm.utah.gov/main.php?project_number=02243750-1) "Exhibit Fabrication and Installation - Utah Museum of Natural History" DFCM Project 02243750

Part I

- Exhibit Renderings
- 80% FD PDF drawings

[http://dfcm.utah.gov/main.php?project\\_number=02243750-2](http://dfcm.utah.gov/main.php?project_number=02243750-2) "Exhibit Fabrication and Installation - Utah Museum of Natural History" DFCM Project 02243750

Part II

- 80% FD Specifications
- 80% FD Graphic Elevations
- 80% FD Graphic Panel Spreadsheet
- 80% FD Interpretive Outline

Current copies of the following documents are hereby made part of these contract documents by reference. These documents are available on the DFCM web site at <http://dfcm.utah.gov> or are available upon request from DFCM.

DFCM Supplemental General Conditions dated July 15, 2008

DFCM General Conditions dated May 25, 2005.

DFCM Application and Certification for Payment dated May 25, 2005.

**The Agreement and General Conditions dated May 25, 2005 have been updated from versions that were formally adopted and in use prior to this date. The changes made to the General Conditions are identified in a document entitled Revisions to General Conditions that is available on DFCM's web site at <http://dfcm.utah.gov>**

# NOTICE TO CONTRACTORS

The State of Utah - Division of Facilities Construction and Management (DFCM) is requesting proposals for the construction of the following project:

**EXHIBIT FABRICATION AND INSTALLATION**  
**UTAH MUSEUM OF NATURAL HISTORY**  
**UNIVERSITY OF UTAH – SALT LAKE CITY, UTAH**  
**DFCM PROJECT NO. 02243750**

This project consists of the fabrication and installation of exhibits for the new Utah Museum of Natural History. The work includes interpretive graphics, interpretive displays, learning labs, display and storage cabinetry, display panels, stone slab panels, interactive touch, electromechanical and audio interactive displays, dioramas, posed taxidermy. See the attached Exhibit Design Narrative. Construction cost is estimated at \$6,247,000.

The Request for Proposals (RFP) documents, including the selection requirements and the selection schedule will be available at 4:00 PM MST, Thursday, February 5, 2009 from DFCM, in electronic format only, at 4110 State Office Building, Salt Lake City, Utah 84114, telephone (801) 538-3018 and on the DFCM web page at <http://dfcm.utah.gov>. For questions regarding this project, please contact Rick James, Project Manager, DFCM, at (801) 541-7783. No others are to be contacted regarding this project.

The procurement shall be under the Value Based Selection RFP method. A **NON-MANDATORY** Pre-Proposal Meeting will be an audio conference at 1:00 PM MST on Tuesday, February 11, 2009. To join the meeting, call (308) 344-6400, enter Meeting Number: 824220#. All prime contractors wishing to submit on this project are advised to participate in this meeting.

A short list will be created on April 1, 2009. Cost proposals must be submitted by 12:00 Noon MDT on Wednesday, April 22, 2009 to DFCM at 4110 State Office Building, Salt Lake City, Utah 84114. Additional information, including a management plan and references, will be required as stated on the Project Schedule. Note: Submittals must be received at 4110 State Office Building by the specified times.

The contractor shall comply with and require all of its subcontractors to comply with the license laws as required by the State of Utah.

A Bid Bond in the amount of five percent (5%) of the proposal amount, made payable to the Division of Facilities Construction and Management on DFCM's bid bond form, shall accompany the cost proposal.

The Division of Facilities Construction & Management reserves the right to reject any or all proposals or to waive any formality or technicality in any proposal in the interest of the State.

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT  
MARLA WORKMAN, CONTRACT COORDINATOR  
4110 State Office Bldg., Salt Lake City, Utah 84114

## DESCRIPTION OF WORK

The new Utah Museum of Natural History will be a major new institution with a focus on the natural and cultural history of the Intermountain West. Housed within a new building - designed by Polshek Partnership and situated on a beautiful sloping site above the University of Utah campus that commands a sweeping view of the Great Salt Lake Basin - the museum will be literally surrounded by natural history. Given this opportunity, the museum will look outward to the site and the state, much as it looks inward to exhibitions and collections. A range of interpretive terraces, trails, and view scopes across the site provides context by pointing out some of the site's unique biological and geological features.

Inside, approximately 37,500 square feet of new permanent exhibits explore topics ranging from Utah's ancient ecosystems and Utah's first peoples to cutting-edge science in the areas of biogeography and genetics. These permanent exhibitions are organized in a series of eight thematic exhibit areas called the Observatories located within which are three embedded Learning Labs. These include Utah Sky, Native Voices, Life (with an adjacent Naturalist's Lab), The Land, First Peoples (with an adjacent Dry Cave Lab), Great Salt Lake, Past Worlds (with an adjacent Earth Lab), and Utah Futures. Within these Observatories and Labs, the interpretive approach builds on an interdisciplinary merging of the arts and humanities with the sciences, which in combination will bring a new perspective to visitors as they come to appreciate and understand the natural world around them, and make informed decisions about its future.

See the attached Exhibit Design Narrative from Ralph Appelbaum Associates.

### **Project Risk Factors**

1. The work of this contract possibly could not be fully coordinated with the other contractors and the owner's staff which will be doing work on the site. Lack of coordination with other contractors could cost the project time and money.
2. Lack of experience in fabrication of exhibits could cause additional cost and delays.
3. Lack of experience in fabrication of exhibit casework is a risk.
4. Lack of experience in the fabrication of scenic work including dioramas, anatomical models, and taxidermy is a risk.
5. Lack of experience in the fabrication of electromechanical interactive displays is a risk to the project.
6. Lack of experience in the fabrication of specialized graphics can be a risk. .
7. Since the project is aiming for a high LEED rating and in general will comply with principles of green building, the lack of experience in the design of LEED design can be a risk to the project.

# PROCUREMENT PROCESS

## 1. Request for Proposal Documents

The Request for Proposal (RFP) documents consist of all of the documents listed in the Table of Contents and all said documents are incorporated in this RFP by reference.

## 2. Availability of Requests for Proposals

A compact disc containing the full contract documents is available free of charge at the locations stated on the Project Schedule. Certain Contract Documents are available at DFCM's internet web site at <http://dfcm.utah.gov>.

## 3. Contact Information

Except as authorized by the DFCM Representative or as otherwise stated in the RFP or the pre-proposal meeting, communication during the selection process shall be directed to the specified DFCM's Representative. In order to maintain the fair and equitable treatment of everyone, contractors shall not unduly contact or offer gifts or gratuities to DFCM, any Board officer, employee or agent of the State of Utah, users or selection committee members in an effort to influence the selection process or in a manner that gives the appearance of influencing the selection process. This prohibition applies before the RFP is issued as the project is developed, and extends through the award of a contract. Failure to comply with this requirement may result in a disqualification in the selection process. Contractors should be aware that selection committee members will be required to certify that they have not been contacted by any of the contractors in an attempt to influence the selection process.

## 4. Requests for Information

All requests for information regarding this project shall be in writing and directed to:

Rick James, Project Manager (DFCM Representative)  
Division of Facilities Construction and Management  
4110 State Office Building  
Salt Lake City, Utah 84114  
E-mail: [rjames@utah.gov](mailto:rjames@utah.gov)  
Facsimile: (801) 538-3267

## 5. Project Schedule

The Project Schedule lists the important events, dates, times and locations of meetings and submittals that must be met by the contractor.

## 6. Non-Mandatory Pre-Proposal Meeting & Registration

A nonmandatory pre-proposal meeting will be held on the date and time and at the location listed on the Project Schedule. A representative from each interested prime contractor is advised to participate. During the meeting, a presentation will be made to describe the overall scope of work and intended schedule.

Interested prime contractors may ask questions and request clarification about the project and the procurement process. Contractors, subcontractors and suppliers are invited to participate.

**7. Submittal Due Dates and Times**

All required submittals must be delivered to, and be received by, the Division of Facilities Construction and Management prior to the date and time indicated in the Project Schedule. Submittals received after the specified time will not be accepted. Please allow adequate time for delivery. If using a courier service, the contractor is responsible for ensuring that delivery will be made directly to the required location. It is your responsibility to allow for the time needed to park on Capitol Hill as recent construction activity has made the parking more difficult. Identification is required to enter the building.

**8. Last Day to Submit Questions**

All questions must be received at the office of DFCM no later than the time and date listed on the Project Schedule. Questions must be submitted in writing to Rick James at DFCM.

**9. Addendum**

All responses to questions and requests for clarification will be in writing and issued as addenda to the Request for Proposals. The addenda will be posted on DFCM's web site. Any addenda issued prior to the submittal deadline shall become part of the Request for Proposals and any information required shall be included in your proposal.

**10. Past Performance and References**

As a contractor completes each DFCM project, DFCM, the architects/engineers and the using agency will evaluate the contractor. It is the intent of DFCM that this process will be the major source for evaluating past performance. Contractors shall submit past performance and reference information by the time indicated on the Project Schedule.

For all DFCM projects completed in the last five years identify the project by name, number and DFCM project manager. Each contractor wishing to compete for this project that has not completed at least three DFCM projects in the last five years, will be required to provide one copy of a list of references on additional similar projects for a total of three projects.

For non-DFCM projects provide the following information:

Point of Contact:	Person who will be able to answer any customer satisfaction questions.
Phone Number:	Phone number of the contact we will be surveying.
User Name:	Name of the Company / Institution that purchased the construction work.
Project Name:	Name of the project.
Date Completed:	Date of when the work was completed.
Address:	Street, city and state where the work was performed.
Size:	Size of project in dollars.
Duration:	Duration of the project / construction in months.
Type:	Type of the project (i.e.: School, Offices, Warehouse, etc.)

**11. Cost Proposal**

Before submitting a proposal, each contractor shall carefully examine the RFP; shall visit the site of the Work; shall fully inform themselves as to all existing conditions and limitations; and shall include in the proposal the cost of all items required by the RFP. If the contractor observes that portions of the Contract Documents are at variance with applicable laws, building codes, rules, regulations or contain obvious erroneous or uncoordinated information, the

contractor shall promptly notify the specified DFCM Representative and the necessary changes shall be accomplished by Addendum.

The proposal, bearing original signatures, must be typed or handwritten in ink on the Cost Proposal Form provided in the procurement documents and submitted in a sealed envelope at the location specified below prior to the deadline for submission of cost proposals indicated on the Project Schedule.

Bid bond security, in the amount of five percent (5%) of the proposal amount, made payable to the Division of Facilities Construction and Management, shall accompany proposal. **THE BID BOND MUST BE ON THE BID BOND FORM PROVIDED IN THE PROCUREMENT DOCUMENTS IN ORDER TO BE CONSIDERED AN ACCEPTABLE PROPOSAL.**

If the bid bond security is submitted on a bid bond form other than DFCM's required bid bond form, and the bid security meets all other legal requirements, the contractor will be allowed to provide an acceptable bid bond by the close of business on the next business day following notification by DFCM of submission of a defective bid bond security. **NOTE:** A cashier's check cannot be used as a substitute for a bid bond.

Cost Proposals will be accepted at the office of DFCM, 4110 State Office Building, Salt Lake City, UT 84114. Late proposals will be disqualified and returned to the proposer unopened. One copy of the cost proposal is required. The contractor shall bid the base bid price and the add alternates.

## **12. Compliance with Construction Budget**

DFCM expects to receive cost proposals that are within the stated construction budget. While all contractors are generally encouraged to submit cost reduction proposals as appropriate, those who are not able to submit a cost proposal within the budget are particularly requested to submit cost reduction proposals to bring the cost within the budget. Contractors may, however, submit cost proposals that exceed the budget but they will be addressed in the manner explained below.

After the deadline for submitting cost proposals, DFCM staff will open proposals to identify those contractors whose cost proposals, less any potentially acceptable cost reduction proposals, are within the stated budget.

Cost proposals will be kept confidential and will not be disclosed to the selection committee until after the interviews and preliminary deliberations are completed. No information regarding a contractor's cost and cost reduction proposals will be disclosed to competing contractors prior to the completion of the selection process.

If no proposals are received from responsive and responsible contractors whose cost proposal, less any potentially acceptable cost reduction proposals, are within the stated budget for the contract, DFCM will determine which of the following actions to take:

A. DFCM may increase the stated budget for the contract and proceed with the selection process with only those contractors whose cost proposals, less any potentially acceptable cost reduction proposals, are within the revised budget for the contract. The determination of sources of additional funding and how much the budget will be increased is solely at the discretion of DFCM.

B. DFCM may reduce the scope or requirements of the contract. This will be evidenced in an addendum to the RFP which will also set a new deadline for submitting revised cost proposals and cost reduction proposals. Only qualified contractors who had previously submitted a cost proposal in accordance with the RFP may be considered in this extended procurement process.

C. DFCM may reject all proposals.

**13. Cost Reduction Proposals**

Any cost reduction proposals must be submitted in writing to DFCM by the deadline indicated in the Project Schedule. Cost reduction proposals may include value engineering or any modification of the original cost proposal, including but not limited to a simple reduction in price. The cost reduction proposals may be evaluated by DFCM, the Using Agency and the A/E to determine if they are potentially acceptable. The selection committee and/or the Director of DFCM, reserves the right to reject any cost reduction proposal that is not reasonable or desirable for the Project. The selection committee will consider the reasonable and desirable cost reduction proposals in the evaluation of the cost criterion. DFCM reserves the right to use any value engineering information presented in a cost reduction proposal for the Project, and use the concept for the benefit of the Project.

**14. Listing of Subcontractors**

Listing of Subcontractors shall be as required by the Request for Proposals and as summarized in the “Instructions and Subcontractor’s List Form”, which are included as part of this RFP. The Subcontractors List shall be delivered to DFCM or faxed to DFCM at (801) 538-3677 by the date and time stated in the Project Schedule and will be included in the Contract. Requirements for listing additional subcontractors are as follows: **NO ADDITIONAL REQUIREMENTS.**

DFCM retains the right to audit or take other steps necessary to confirm compliance with requirements for the listing and changing of subcontractors. Any contractor who is found to not be in compliance with these requirements is subject to a debarment hearing and may be debarred from consideration for award of contracts for a period of up to three years.

**15. Time**

One of the selection criteria will be proposed contract time. The contractor will include in the management plan the schedule for completing the work including any items required by DFCM or the A/E. A completion date prior to December 31, 2010 is requested.

The actual notice to proceed will be based on how quickly the contractor returns the contract and the required bonds as well as the resolution of any issues that may arise in the procurement process. The contractor shall allow sufficient time in their schedule to accommodate receipt and signing of contract and bonds.

All plans, schedules, and the cost proposals are required to reflect the project construction time. Non-compliance with the schedule will not result in automatic disqualification; it will be evaluated by the selection committee in determining the final selection.

Of particular interest and concern are the management team and the ability of the prime contractors to deliver the project within the construction time. Contractors will need to demonstrate the method of delivery and the competency of the individuals who will manage its successful completion.

**16. Management Plan**

The contractor shall provide five copies of the management plan by the time indicated on the Project Schedule. The management plan should contain information on how the construction will be managed including items such as security and safety controls, staging areas, delivery routes, crane locations and interfaces required at the site with

the using agency. It should contain an organization chart of key project personnel and also address how critical subcontractors were selected and will be managed.

Address project specific criteria, risks that have been identified by the RFP and additional risks that the team has identified. State how those risks will be mitigated.

As part of the management plan include your proposed project schedule. Indicate critical dates and other information in sufficient detail for the selection committee to determine if the time frames are reasonable.

The management plan should be concise yet contain sufficient information for evaluation by the selection committee.

#### **17. Statements of Qualifications**

The contractor shall provide five copies of the statements of qualifications by the time indicated on the Project Schedule. The statement of qualifications is a short document that indicates the experience and qualifications of the firm, the project manager and the site superintendent. It should include information on similar projects that have been completed by the firm, project manager and site superintendent. Include the experience and special qualifications that the project manager and site superintendent have that are applicable to this project and/or are part of the project specific selection criteria.

#### **18. Termination or Debarment Certifications**

The contractor must submit a certification that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from soliciting work by any governmental department or agency. The contractor must also certify that neither it nor its principals have been terminated during the performance of a contract or withdrew from a contract to avoid termination. If the contractor cannot certify these two statements the firm shall submit a written explanation of the circumstances for review by DFCM. Firms are to submit these certifications with their Statement of Qualifications.

#### **19. Selection Committee**

The Selection Committee may be composed of individuals from DFCM, the User Agency/Institution, and representatives from the design or construction disciplines

#### **20. Interviews.**

Interviews will be conducted with all responsive and responsible contractors except as follows. If more than six contractors submit proposals and meet other requirements, DFCM may convene the selection committee to develop a short list of contractors to be invited to interviews. This evaluation will be made using the selection criteria noted below except that cost will not be considered. The information provided by the past performance/references, preliminary management plan and statement of qualifications will be the basis for this evaluation.

The purpose of the interview is to allow the contractor to present its qualifications, past performance, management plan, schedule and general plan for constructing the project. It will also provide an opportunity for the selection committee to seek clarification of the contractor's proposal.

The proposed primary project management personnel, including the project manager and superintendent, should be in attendance. The project manager is the contractor's representative who will be in daily control of the

construction site. The project manager has overall job authority, will be in attendance at all job meetings, and is authorized by the contractor to negotiate and sign any and all change orders in the field, if necessary. Unless otherwise noted, the attendance of subcontractors is at the discretion of the contractor.

The method of presentation is at the discretion of the contractor. The interviews will be held on the date and at the place specified in the Project Schedule.

## **21. Selection Criteria for VBS Construction**

The following criteria will be used in ranking each of the construction firms. The firm that is ranked the highest will represent the best value for the state. The criteria are not listed in any priority order. The selection committee will consider all criteria in performing a comprehensive evaluation of the proposal. Weights have been assigned to each criteria in the form of points.

- A. **Cost. 20 Points.** The contractor's proposal, inclusive of accepted alternates and cost reduction proposals will be scored in accordance with the following formula:  
*Lowest Cost Proposal divided by Cost Proposal, multiplied by criteria points available. [(LCP/CP) Points = Score] The lowest cost proposal shall receive full points for this criterion.*
- B. **Schedule. 5 Points.** The contractor's schedule will be evaluated as to how well it meets the objectives of the project. Unless other objectives are stated, the shorter the construction duration that is evaluated to be feasible while maintaining safety and quality in conformance with the construction documents is preferred. The contractor shall discuss during the interview the project schedule, identifying major work items with start and stop dates that are realistic and critical subcontractors and if they have reviewed and agree to the schedule.
- C. **DFCM Past Performance Rating. 5 Points.** Each construction firm will be given a past performance rating. The rating will be based first on how well the firm did on past projects with DFCM. If a minimum of three DFCM past performance ratings are not available, a rating will be established using any DFCM past performance ratings that are available, supplemented by references supplied by the contractor at the time the proposals are submitted.
- D. **Strength of Contractor's Team. 15 Points.** Based on the statements of qualifications, the interview, and management plan, the selection team shall evaluate the expertise and experience of the construction firm the project manager and the superintendent as it relates to this project in size, complexity, quality and duration. Consideration will also be given to the portions of the project that the contractor will self perform and the strength brought to the team by critical subcontractors including how they were selected and the success the contractor has had in working with them.
- E. **Project Management Approach. 20 Points.** Based on the information provided in the management plan and information presented in the interview the selection team shall evaluate how each team has planned the project and determined how to construct the project in the location and in the time frames presented. The firm should present how they plan to move material and people into and out of the site. Keep the site safe; minimize disruption to the facility etc. The construction firm shall also discuss what portions of the project they plan to self perform. The selection team will also evaluate the degree to which risks to the success of the project have been identified and a reasonable solution has been presented. This may include cost reduction ideas or proposals.

The following criteria are project specific. They are added to the above criteria in determining the selection that represents the best value for the state.

- F. Coordination with other Contractors. **5 Points.** The contractor must coordinate work with other contractors. As this project is located within a new building, the scope work will include a high degree of integration between multiple prime contractors including a general contractor, exhibit contractor, audio/visual systems integrator, various media producers and the museum's own exhibit staff.
1. Describe your approach to coordinating your work with that of multiple prime contractors.
  2. Describe at least three projects of comparable scale where you worked with other prime contractors. Provide images and references.
  3. What challenges did you face? In these cases, what methods led to a successful integration of work? What would you have done differently?
- G. Exhibits Fabrication Experience. **5 Points.** Describe your company's overall capabilities relative to exhibit fabrication including:
1. Corporate ownership
  2. Staff experience
  3. Team structure
  4. Project management approach: cost management, changes,
  5. Safety, shop drawings, submittals, quality control, etc.
  6. Facilities, unique tools, etc.
  7. Potential relevant subcontractors
- H. Exhibit Casework Fabrication. **5 Points.**
1. Describe your approach to casework fabrication and engineering.
  2. Describe at least three projects involving exhibit casework of comparable scale. Provide images and references.
  3. List any potential subcontractors you would consider using and their qualifications.
- I. Specialized Scenic Work Fabrication. **5 Points.** The scope of work will include the fabrication of scenic work including dioramas, anatomical models and taxidermy.
1. Describe your approach to scenic work.
  2. Describe at least three projects involving scenic work of comparable scale. Provide images and references.
  3. List any potential subcontractors you would propose using and their qualifications.
- J. Electromechanical Interactives Fabrication. **5 Points.**
1. Describe your approach to the prototyping, and final engineering of interactive exhibits
  2. Describe at least three projects involving interactives of comparable scale and complexity. Provide images and references.
  3. List any potential subcontractors you would propose using and their qualifications. The scope work will include the construction of living exhibits including habitats for small animals, insects, fish, reptiles, etc.
  4. Describe your approach to engineering exhibit life support systems.
  5. Describe at least three projects involving living exhibits of comparable scale. Provide images and references. List any potential subcontractors you would propose using and their qualifications.

**K. Specialized Graphics Fabrication. 5 Points.**

1. Describe your approach to graphics fabrication.
2. Describe at least three projects involving graphics of comparable scale. Provide images and references.
3. List any potential subcontractors you would propose using and their qualifications.

**L. Green Building Techniques. 5 Points.** The project is aiming for a high LEED rating and in general will comply with principles of green building. Describe your approach to green building techniques. What methods and choices can be made?

1. Describe at least three projects involving green building techniques of comparable scale. Provide images and references.
2. List any potential subcontractors you would propose using and their qualifications.

**Total Points Possible: 100 Points**

**22. Award of Contract**

The selection of the prime contractor will be made using the Value Based Selection system (VBS). The award of the Contract shall be in accordance with the criteria set forth in the Request for Proposals (RFP). The State of Utah intends to enter into an agreement with the prime contractor to construct the project as outlined. Individual contractors or alliances between two or more contractors are allowed in this process. The State will contract with only one legal entity.

**23. Contract and Bond**

The contractor's agreement will be in the form found in the specifications. The contract time will be as indicated in the proposal. The selected contractor, simultaneously with the execution of the contract agreement, will be required to furnish a performance bond and a payment bond, both bearing original signatures, upon the forms provided in the RFP. The performance and payment bonds shall be for an amount equal to one hundred percent (100%) of the contract sum and secured from a company that meets the requirements specified in the requisite forms. Any bonding requirements for subcontractors will be specified in the Supplementary General Conditions.

**24. Interpretation of Drawings and Specifications**

If any person or entity contemplating submitting a proposal is in doubt as to the meaning of any part of the drawings, specifications or other contract documents, such person shall submit to the specified DFCM representative a request for an interpretation thereof. The person or entity submitting the request will be responsible for its prompt delivery. Any interpretation of the proposed documents will be made only by addenda posted on DFCM's web site. Neither DFCM nor A/E will be responsible for any other explanations or interpretations of the proposed documents. A/E shall be deemed to refer to the architect or engineer hired by DFCM as the A/E or Consultant for the Project.

**25. Licensure**

The contractor shall comply with and require all of its subcontractors to comply with the license laws as required by the State of Utah.

**26. Permits**

In concurrence with the requirements for permitting in the general conditions, it is the responsibility of the contractor to obtain the fugitive dust plan requirements from the Utah Division of Air Quality and the SWPPP requirements from the Utah Department of Environmental Quality and submit the completed forms and pay any permit fee that may be required for this specific project. Failure to obtain the required permit may result in work stoppage and/or fines from the regulating authority that will be the sole responsibility of the contractor. Any delay to the project as a result of any such failure to obtain the permit or noncompliance with the permit shall not be eligible for any extension in the Contract Time.

**27. Financial Responsibility of Contractors, Subcontractors and Sub-subcontractors**

Contractors shall respond promptly to any inquiry in writing by the DFCM to any concern of financial responsibility of the contractor, subcontractor or sub-subcontractor.

**28. Product Approvals**

Where reference is made to one or more proprietary products in the contract documents, but restrictive descriptive materials of one or more manufacturer(s) is referred to in the contract documents, the products of other manufacturers will be accepted, provided they equal or exceed the standards set forth in the drawings and specifications and are compatible with the intent and purpose of the design, subject to the written approval of the A/E. Such written approval must occur prior to the deadline established for the last scheduled addenda to be issued. The A/E's written approval will be in an issued addendum. If the descriptive material is not restrictive, the products of other manufacturers specified will be accepted without prior approval provided they are compatible with the intent and purpose of the design as determined by the A/E.

**29. Withdrawal of Proposals**

Proposals may be withdrawn on written request received from proposer until the notice of selection is issued.

**30. Time is of the Essence**

Time is of the essence in regard to all the requirements of the contract documents.

**31. Right to Reject Proposals**

DFCM reserves the right to reject any or all proposals.



## PROJECT SCHEDULE

**PROJECT NAME: EXHIBIT FABRICATION AND INSTALLATION - UTAH MUSEUM OF NATURAL HISTORY  
UNIVERSITY OF UTAH – SALT LAKE CITY, UTAH**  
**DFCM PROJECT #: 02243750**

Event	Day	Date	Time	Place
Request for Proposals and 80% Complete Exhibit Design Documents Available	Thursday	February 5, 2009	4:00 PM MST	DFCM 4110 State Office Bldg SLC, UT and the DFCM web site *
<b>Non-Mandatory</b> Pre-Proposal Audio Conference Meeting	Wednesday	February 11, 2009	1:00 PM MST	Call (308) 344-6400 Enter Meeting Number: 824220# See attached agenda on web site*
Last Day to Submit Questions prior to submittal of Statements of Qualifications	Tuesday	February 24, 2009	4:00 PM MST	Rick James – DFCM E-mail ejames@utah.gov Fax (801) 537-3267
Addendum Deadline	Tuesday	March 3, 2009	2:00 PM MST	DFCM web site *
Prime Contractors turn in References, Statements of Qualifications, Management Plans (including Schedule), and Termination/Debarment Certifications	Tuesday	March 10, 2009	3:00 PM MST	DFCM 4110 State Office Bldg SLC, UT
Short Listing by Selection Committee. 100% Exhibit Final Design Documents Available	Wednesday	April 1, 2009	3:00 PM MDT	To be determined
Last Date to Submit Questions for Final Addendum	Tuesday	April 7, 2009	4:00 PM MDT	Rick James – DFCM E mail ejames@utah.gov Fax (801) 537-3267
Final Addendum Deadline (exception for bid delays)	Thursday	April 16, 2009	2:00 PM MDT	DFCM web site *
Prime Contractors Turn In Cost Proposals and Cost Reduction Proposals	Wednesday	April 22, 2009	12:00 NOON MDT	DFCM 4110 State Office Bldg SLC, UT
Subcontractor List Due	Thursday	April 23, 2009	12:00 NOON MDT	DFCM 4110 State Office Bldg SLC, UT Fax 801-538-3677
Interviews	Thursday	April 30, 2009	TBA	TBA
Announcement	Monday	May 4, 2009		DFCM web site *
Notice to Proceed				TBD
Exhibits Installation Begins in a Dust-Controlled Environment	Thursday	April 22, 2010		
Exhibits Installation Continues in a Dust-Free Environment	Monday	August 23, 2010		Estimated to be the time of the Building Substantial Completion Date. Building is being constructed by separate Contractor
Substantial Completion Date	Friday	December 31, 2010		Exhibits Fabricator

\* DFCM's web site address is <http://dfcm.utah.gov>.

**COST PROPOSAL FORM**

NAME OF PROPOSER \_\_\_\_\_ DATE \_\_\_\_\_

To the Division of Facilities Construction and Management  
4110 State Office Building  
Salt Lake City, Utah 84114

The undersigned, responsive to the "Notice to Contractors" and in accordance with the "Request for Proposals" for the **EXHIBIT FABRICATION AND INSTALLATION - UTAH MUSEUM OF NATURAL HISTORY – UNIVERSITY OF UTAH – SALT LAKE CITY, UTAH – DFCM PROJECT NO. 02243750** and having examined the Contract Documents and the site of the proposed Work and being familiar with all of the conditions surrounding the construction of the proposed Project, including the availability of labor, hereby proposes to furnish all labor, materials and supplies as required for the Work in accordance with the Contract Documents as specified and within the time set forth and at the price stated below. This price is to cover all expenses incurred in performing the Work required under the Contract Documents of which this bid is a part:

I/We acknowledge receipt of the following Addenda: \_\_\_\_\_

For all work shown on the Drawings and described in the Specifications and Contract Documents, I/we agree to perform for the sum of:

\_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_)  
(In case of discrepancy, written amount shall govern)

I/We guarantee that the Work will be Substantially Complete by \_\_\_\_\_ **(specific date to be provided by contractor)**, should I/we be the successful proposer, and agree to pay liquidated damages in the amount of **\$1,000.00** per day for each day after expiration of the Contract Time as stated in Article 3 of the Contractor's Agreement.

This bid shall be good for 45 days after bid opening.

Enclosed is a 5% bid bond, as required, in the sum of \_\_\_\_\_

The undersigned Contractor's License Number for Utah is \_\_\_\_\_.

Upon receipt of notice of award of this bid, the undersigned agrees to execute the contract within ten (10) days, unless a shorter time is specified in the Contract Documents, and deliver acceptable Performance and Payment bonds in the prescribed form in the amount of 100% of the Contract Sum for faithful performance of the contract. The Bid Bond attached, in the amount not less than five percent (5%) of the above bid sum, shall become the property of the Division of Facilities Construction and Management as liquidated damages for delay and additional expense caused thereby in the event that the contract is not executed and/or acceptable 100% Performance and Payment bonds are not delivered within the time set forth.

Type of Organization:

\_\_\_\_\_  
(Corporation, Partnership, Individual, etc.)

Any request and information related to Utah Preference Laws:

\_\_\_\_\_

Respectfully submitted,

\_\_\_\_\_  
Name of Proposer

ADDRESS:

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Authorized Signature

## BID BOND

(Title 63, Chapter 56, U. C. A. 1953, as Amended)

### KNOW ALL PERSONS BY THESE PRESENTS:

That \_\_\_\_\_ hereinafter referred to as the "Principal," and \_\_\_\_\_, a corporation organized and existing under the laws of the State of \_\_\_\_\_, with its principal office in the City of \_\_\_\_\_ and authorized to transact business in this State and U. S. Department of the Treasury Listed, (Circular 570, Companies Holding Certificates of Authority as Acceptable Securities on Federal Bonds and as Acceptable Reinsuring Companies); hereinafter referred to as the "Surety," are held and firmly bound unto the STATE OF UTAH, hereinafter referred to as the "Obligee," in the amount of \$ \_\_\_\_\_ (5% of the accompanying bid), being the sum of this Bond to which payment the Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

**THE CONDITION OF THIS OBLIGATION IS SUCH** that whereas the Principal has submitted to Obligee the accompanying bid incorporated by reference herein, dated as shown, to enter into a contract in writing for the \_\_\_\_\_ Project.

**NOW, THEREFORE, THE CONDITION OF THE ABOVE OBLIGATION IS SUCH**, that if the said principal does not execute a contract and give bond to be approved by the Obligee for the faithful performance thereof within ten (10) days after being notified in writing of such contract to the principal, then the sum of the amount stated above will be forfeited to the State of Utah as liquidated damages and not as a penalty; if the said principal shall execute a contract and give bond to be approved by the Obligee for the faithful performance thereof within ten (10) days after being notified in writing of such contract to the Principal, then this obligation shall be null and void. It is expressly understood and agreed that the liability of the Surety for any and all defaults of the Principal hereunder shall be the full penal sum of this Bond. The Surety, for value received, hereby stipulates and agrees that obligations of the Surety under this Bond shall be for a term of sixty (60) days from actual date of the bid opening.

**PROVIDED, HOWEVER**, that this Bond is executed pursuant to provisions of Title 63, Chapter 56, Utah Code Annotated, 1953, as amended, and all liabilities on this Bond shall be determined in accordance with said provisions to same extent as if it were copied at length herein.

**IN WITNESS WHEREOF**, the above bounden parties have executed this instrument under their several seals on the date indicated below, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

**DATED** this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

**Principal's name and address (if other than a corporation):**

**Principal's name and address (if a corporation):**

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

By: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_  
(Affix Corporate Seal)

**Surety's name and address:**

\_\_\_\_\_  
\_\_\_\_\_

STATE OF \_\_\_\_\_ )  
COUNTY OF \_\_\_\_\_ ) ss.

By: \_\_\_\_\_  
Attorney-in-Fact (Affix Corporate Seal)

On this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, personally appeared before me \_\_\_\_\_, whose identity is personally known to me or proved to me on the basis of satisfactory evidence, and who, being by me duly sworn, did say that he/she is the Attorney-in-fact of the above-named Surety Company, and that he/she is duly authorized to execute the same and has complied in all respects with the laws of Utah in reference to becoming sole surety upon bonds, undertakings and obligations, and that he/she acknowledged to me that as Attorney-in-fact executed the same.

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.  
My Commission Expires: \_\_\_\_\_  
Resides at: \_\_\_\_\_

\_\_\_\_\_  
NOTARY PUBLIC

**Agency:** \_\_\_\_\_  
**Agent:** \_\_\_\_\_  
**Address:** \_\_\_\_\_  
**Phone:** \_\_\_\_\_

Approved As To Form: May 25, 2005  
By Alan S. Bachman, Asst Attorney General



## INSTRUCTIONS AND SUBCONTRACTORS LIST FORM

The three low bidders, as well as all other bidders that desire to be considered, are required by law to submit to DFCM within 24 hours of bid opening a list of **ALL** first-tier subcontractors, including the subcontractor's name, bid amount and other information required by Building Board Rule and as stated in these Contract Documents, based on the following:

### **DOLLAR AMOUNTS FOR LISTING**

**PROJECTS UNDER \$500,000: ALL FIRST-TIER SUBS \$20,000 OR OVER MUST BE LISTED**  
**PROJECTS \$500,000 OR MORE: ALL FIRST-TIER SUBS \$35,000 OR OVER MUST BE LISTED**

- Any additional subcontractors identified in the bid documents shall also be listed.
- The DFCM Director may not consider any bid submitted by a bidder if the bidder fails to submit a subcontractor list meeting the requirements of State law.
- List subcontractors for base bid as well as the impact on the list that the selection of any alternate may have.
- Bidder may not list more than one subcontractor to perform the same work.
- If there are no subcontractors for the job that are required to be reported by State law (either because there are no subcontractors that will be used on the project or because there are no first-tier subcontractors over the dollar amounts referred to above), then you do not need to submit a sublist. If you do not submit a sublist, it will be deemed to be a representation by you that there are no subcontractors on the job that are required to be reported under State law. At any time, DFCM reserves the right to inquire, for security purposes, as to the identification of the subcontractors at any tier that will be on the worksite.

### **LICENSURE:**

The subcontractor's name, the type of work, the subcontractor's bid amount, and the subcontractor's license number as issued by DOPL, if such license is required under Utah Law, shall be listed. Bidder shall certify that all subcontractors, required to be licensed, are licensed as required by State law. A subcontractor includes a trade contractor or specialty contractor and does not include suppliers who provide only materials, equipment, or supplies to a contractor or subcontractor.

### **'SPECIAL EXCEPTION':**

A bidder may list 'Special Exception' in place of a subcontractor when the bidder intends to obtain a subcontractor to perform the work at a later date because the bidder was unable to obtain a qualified or reasonable bid under the provisions of U.C.A. Section 63A-5-208(4). The bidder shall insert the term 'Special Exception' for that category of work, and shall provide documentation with the subcontractor list describing the bidder's efforts to obtain a bid of a qualified subcontractor at a reasonable cost and why the bidder was unable to obtain a qualified subcontractor bid. The Director must find that the bidder complied in good faith with State law requirements for any 'Special Exception' designation, in order for the bid to be considered. If awarded the contract, the Director shall supervise the bidder's efforts to obtain a qualified subcontractor bid. The amount of the awarded contract may not be adjusted to reflect the actual amount of the subcontractor's bid. Any listing of 'Special Exception' on the sublist form shall also include amount allocated for that work.

### **GROUND FOR DISQUALIFICATION:**

The Director may not consider any bid submitted by a bidder if the bidder fails to submit a subcontractor list meeting the requirements of State law. Director may withhold awarding the contract to a particular bidder if one or more of the proposed subcontractors are considered by the Director to be unqualified to do the Work or for

**INSTRUCTIONS AND SUBCONTRACTORS LIST FORM**  
**Page No. 2**

such other reason in the best interest of the State of Utah. Notwithstanding any other provision in these instructions, if there is a good faith error on the sublist form, at the sole discretion of the Director, the Director may provide notice to the contractor and the contractor shall have 24 hours to submit the correction to the Director. If such correction is submitted timely, then the sublist requirements shall be considered met.

**CHANGES OF SUBCONTRACTORS SPECIFICALLY IDENTIFIED ON SUBLIST FORM:**

Subsequent to twenty-four hours after the bid opening, the contractor may change its listed subcontractors only after receiving written permission from the Director based on complying with all of the following criteria.

- (1) The contractor has established in writing that the change is in the best interest of the State and that the contractor establishes an appropriate reason for the change, which may include, but not is not limited to, the following reasons: the original subcontractor has failed to perform, or is not qualified or capable of performing, and/or the subcontractor has requested in writing to be released.
- (2) The circumstances related to the request for the change do not indicate any bad faith in the original listing of the subcontractors.
- (3) Any requirement set forth by the Director to ensure that the process used to select a new subcontractor does not give rise to bid shopping.
- (4) Any increase in the cost of the subject subcontractor work is borne by the contractor.
- (5) Any decrease in the cost of the subject subcontractor work shall result in a deductive change order being issued for the contract for such decreased amount.
- (6) The Director will give substantial weight to whether the subcontractor has consented in writing to being removed unless the Contractor establishes that the subcontractor is not qualified for the work.

**EXAMPLE:**

Example of a list where there are only four subcontractors:

TYPE OF WORK	SUBCONTRACTOR, “SELF” OR “SPECIAL EXCEPTION”	SUBCONTRACTOR BID AMOUNT	CONTRACTOR LICENSE #
ELECTRICAL	ABCD Electric Inc.	\$350,000.00	123456789000
LANDSCAPING	“Self” *	\$300,000.00	123456789000
CONCRETE (ALTERNATE #1)	XYZ Concrete Inc	\$298,000.00	987654321000
MECHANICAL	“Special Exception” (attach documentation)	Fixed at: \$350,000.00	(TO BE PROVIDED AFTER OBTAINING SUBCONTRACTOR)

\* Bidders may list “self”, but it is not required.

**PURSUANT TO STATE LAW - SUBCONTRACTOR BID AMOUNTS CONTAINED IN THIS  
SUBCONTRACTOR LIST SHALL NOT BE DISCLOSED UNTIL THE CONTRACT HAS BEEN AWARDED.**

**SUBCONTRACTORS LIST**

FAX TO 801-538-3677

PROJECT TITLE: \_\_\_\_\_

Caution: You must read and comply fully with instructions.

TYPE OF WORK	SUBCONTRACTOR, "SELF" OR "SPECIAL EXCEPTION"	SUBCONTRACTOR BID AMOUNT	CONT. LICENSE #

We certify that:

1. This list includes all subcontractors as required by the instructions, including those related to the base bid as well as any alternates.
2. We have listed "Self" or "Special Exception" in accordance with the instructions.
3. All subcontractors are appropriately licensed as required by State law.

FIRM: \_\_\_\_\_

DATE: \_\_\_\_\_

SIGNED BY: \_\_\_\_\_

**NOTICE:** FAILURE TO SUBMIT THIS FORM, PROPERLY COMPLETED AND SIGNED, AS REQUIRED IN THESE CONTRACT DOCUMENTS, SHALL BE GROUNDS FOR OWNER'S REFUSAL TO ENTER INTO A WRITTEN CONTRACT WITH BIDDER. ACTION MAY BE TAKEN AGAINST BIDDERS BID BOND AS DEEMED APPROPRIATE BY OWNER. ATTACH A SECOND PAGE IF NECESSARY.

## CONTRACTOR'S AGREEMENT

FOR:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

THIS CONTRACTOR'S AGREEMENT, made and entered into this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, by and between the DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT, hereinafter referred to as "DFCM", and \_\_\_\_\_, incorporated in the State of \_\_\_\_\_ and authorized to do business in the State of Utah, hereinafter referred to as "Contractor", whose address is \_\_\_\_\_.

WITNESSETH: WHEREAS, DFCM intends to have Work performed at \_\_\_\_\_  
\_\_\_\_\_.

WHEREAS, Contractor agrees to perform the Work for the sum stated herein.

NOW, THEREFORE, DFCM and Contractor for the consideration provided in this Contractor's Agreement, agree as follows:

**ARTICLE 1. SCOPE OF WORK.** The Work to be performed shall be in accordance with the Contract Documents prepared by \_\_\_\_\_ and entitled "\_\_\_\_\_  
\_\_\_\_\_."

The DFCM General Conditions ("General Conditions") dated May 25, 2005 and Supplemental General Conditions dated July 15, 2008 ("also referred to as General Conditions") on file at the office of DFCM and available on the DFCM website, are hereby incorporated by reference as part of this Agreement and are included in the specifications for this Project. All terms used in this Contractor's Agreement shall be as defined in the Contract Documents, and in particular, the General Conditions.

The Contractor Agrees to furnish labor, materials and equipment to complete the Work as required in the Contract Documents which are hereby incorporated by reference. It is understood and agreed by the parties hereto that all Work shall be performed as required in the Contract Documents and shall be subject to inspection and approval of DFCM or its authorized representative. The relationship of the Contractor to the DFCM hereunder is that of an independent Contractor.

**ARTICLE 2. CONTRACT SUM.** The DFCM agrees to pay and the Contractor agrees to accept in full performance of this Contractor's Agreement, the sum of \_\_\_\_\_  
\_\_\_\_\_ DOLLARS AND NO CENTS (\$\_\_\_\_\_.00), which is the base bid, and which sum also includes the cost of a 100%

CONTRACTOR'S AGREEMENT  
PAGE NO. 2

Performance Bond and a 100% Payment Bond as well as all insurance requirements of the Contractor. Said bonds have already been posted by the Contractor pursuant to State law. The required proof of insurance certificates have been delivered to DFCM in accordance with the General Conditions before the execution of this Contractor's Agreement.

**ARTICLE 3. TIME OF COMPLETION AND DELAY REMEDY.** The Work shall be Substantially Complete by \_\_\_\_\_. Contractor agrees to pay liquidated damages in the amount of \$\_\_\_\_\_ per day for each day after expiration of the Contract Time until the Contractor achieves Substantial Completion in accordance with the Contract Documents, if Contractor's delay makes the damages applicable. The provision for liquidated damages is: (a) to compensate the DFCM for delay only; (b) is provided for herein because actual damages can not be readily ascertained at the time of execution of this Contractor's Agreement; (c) is not a penalty; and (d) shall not prevent the DFCM from maintaining Claims for other non-delay damages, such as costs to complete or remedy defective Work.

No action shall be maintained by the Contractor, including its or Subcontractor or suppliers at any tier, against the DFCM or State of Utah for damages or other claims due to losses attributable to hindrances or delays from any cause whatsoever, including acts and omissions of the DFCM or its officers, employees or agents, except as expressly provided in the General Conditions. The Contractor may receive a written extension of time, signed by the DFCM, in which to complete the Work under this Contractor's Agreement in accordance with the General Conditions.

**ARTICLE 4. CONTRACT DOCUMENTS.** The Contract Documents consist of this Contractor's Agreement, the Conditions of the Contract (DFCM General Conditions, Supplementary and other Conditions), the Drawings, Specifications, Addenda and Modifications. The Contract Documents shall also include the bidding documents, including the Notice to Contractors, Instructions to Bidders/Proposers and the Bid/Proposal, to the extent not in conflict therewith and other documents and oral presentations that are documented as an attachment to the contract.

All such documents are hereby incorporated by reference herein. Any reference in this Contractor's Agreement to certain provisions of the Contract Documents shall in no way be construed as to lessen the importance or applicability of any other provisions of the Contract Documents.

**ARTICLE 5. PAYMENT.** The DFCM agrees to pay the Contractor from time to time as the Work progresses, but not more than once each month after the date of Notice to Proceed, and only upon Certificate of the A/E for Work performed during the preceding calendar month, ninety-five percent (95%) of the value of the labor performed and ninety-five percent (95%) of the value of materials furnished in place or on the site. The Contractor agrees to furnish to the DFCM invoices for materials purchased and on the site but not installed, for which the

CONTRACTOR'S AGREEMENT  
PAGE NO. 3

Contractor requests payment and agrees to safeguard and protect such equipment or materials and is responsible for safekeeping thereof and if such be stolen, lost or destroyed, to replace same.

Such evidence of labor performed and materials furnished as the DFCM may reasonably require shall be supplied by the Contractor at the time of request for Certificate of Payment on account. Materials for which payment has been made cannot be removed from the job site without DFCM's written approval. Five percent (5%) of the earned amount shall be retained from each monthly payment. The retainage, including any additional retainage imposed and the release of any retainage, shall be in accordance with UCA 13-8-5 as amended. Contractor shall also comply with the requirements of UCA 13-8-5, including restrictions of retainage regarding subcontractors and the distribution of interest earned on the retention proceeds. The DFCM shall not be responsible for enforcing the Contractor's obligations under State law in fulfilling the retention law requirements with subcontractors at any tier.

**ARTICLE 6. INDEBTEDNESS.** Before final payment is made, the Contractor must submit evidence satisfactory to the DFCM that all payrolls, materials bills, subcontracts at any tier and outstanding indebtedness in connection with the Work have been properly paid. Final Payment will be made after receipt of said evidence, final acceptance of the Work by the DFCM as well as compliance with the applicable provisions of the General Conditions.

Contractor shall respond immediately to any inquiry in writing by DFCM as to any concern of financial responsibility and DFCM reserves the right to request any waivers, releases or bonds from Contractor in regard to any rights of Subcontractors (including suppliers) at any tier or any third parties prior to any payment by DFCM to Contractor.

**ARTICLE 7. ADDITIONAL WORK.** It is understood and agreed by the parties hereto that no money will be paid to the Contractor for additional labor or materials furnished unless a new contract in writing or a Modification hereof in accordance with the General Conditions and the Contract Documents for such additional labor or materials has been executed. The DFCM specifically reserves the right to modify or amend this Contractor's Agreement and the total sum due hereunder either by enlarging or restricting the scope of the Work.

**ARTICLE 8. INSPECTIONS.** The Work shall be inspected for acceptance in accordance with the General Conditions.

**ARTICLE 9. DISPUTES.** Any dispute, PRE or Claim between the parties shall be subject to the provisions of Article 7 of the General Conditions. DFCM reserves all rights to pursue its rights and remedies as provided in the General Conditions.

**ARTICLE 10. TERMINATION, SUSPENSION OR ABANDONMENT.** This Contractor's Agreement may be terminated, suspended or abandoned in accordance with the General Conditions.

**ARTICLE 11. DFCM'S RIGHT TO WITHHOLD CERTAIN AMOUNT AND MAKE USE THEREOF.** The DFCM may withhold from payment to the Contractor such amount as, in DFCM's judgment, may be necessary to pay just claims against the Contractor or Subcontractor at any tier for labor and services rendered and materials furnished in and about the Work. The DFCM may apply such withheld amounts for the payment of such claims in DFCM's discretion. In so doing, the DFCM shall be deemed the agent of Contractor and payment so made by the DFCM shall be considered as payment made under this Contractor's Agreement by the DFCM to the Contractor. DFCM shall not be liable to the Contractor for any such payment made in good faith. Such withholdings and payments may be made without prior approval of the Contractor and may be also be prior to any determination as a result of any dispute, PRE, Claim or litigation.

**ARTICLE 12. INDEMNIFICATION.** The Contractor shall comply with the indemnification provisions of the General Conditions.

**ARTICLE 13. SUCCESSORS AND ASSIGNMENT OF CONTRACT.** The DFCM and Contractor, respectively bind themselves, their partners, successors, assigns and legal representatives to the other party to this Agreement, and to partners, successors, assigns and legal representatives of such other party with respect to all covenants, provisions, rights and responsibilities of this Contractor's Agreement. The Contractor shall not assign this Contractor's Agreement without the prior written consent of the DFCM, nor shall the Contractor assign any moneys due or to become due as well as any rights under this Contractor's Agreement, without prior written consent of the DFCM.

**ARTICLE 14. RELATIONSHIP OF THE PARTIES.** The Contractor accepts the relationship of trust and confidence established by this Contractor's Agreement and covenants with the DFCM to cooperate with the DFCM and A/E and use the Contractor's best skill, efforts and judgment in furthering the interest of the DFCM; to furnish efficient business administration and supervision; to make best efforts to furnish at all times an adequate supply of workers and materials; and to perform the Work in the best and most expeditious and economic manner consistent with the interests of the DFCM.

**ARTICLE 15. AUTHORITY TO EXECUTE AND PERFORM AGREEMENT.** Contractor and DFCM each represent that the execution of this Contractor's Agreement and the performance thereunder is within their respective duly authorized powers.

**ARTICLE 16. ATTORNEY FEES AND COSTS.** Except as otherwise provided in the dispute resolution provisions of the General Conditions, the prevailing party shall be entitled to reasonable attorney fees and costs incurred in any action in the District Court and/or appellate body to enforce this Contractor's Agreement or recover damages or any other action as a result of a breach thereof.

CONTRACTOR'S AGREEMENT  
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**IN WITNESS WHEREOF**, the parties hereto have executed this Contractor's Agreement on the day and year stated hereinabove.

**CONTRACTOR:** \_\_\_\_\_

\_\_\_\_\_  
Signature Date

Title: \_\_\_\_\_

State of \_\_\_\_\_)  
\_\_\_\_\_)  
County of \_\_\_\_\_)

\_\_\_\_\_  
Please type/print name clearly

On this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, personally appeared before me, \_\_\_\_\_, whose identity is personally known to me (or proved to me on the basis of satisfactory evidence) and who by me duly sworn (or affirmed), did say that he (she) is the \_\_\_\_\_ (title or office) of the firm and that said document was signed by him (her) in behalf of said firm.

(SEAL)

\_\_\_\_\_  
**Notary Public**

My Commission Expires \_\_\_\_\_

APPROVED AS TO AVAILABILITY  
OF FUNDS:

\_\_\_\_\_  
David D. Williams, Jr. Date  
DFCN Administrative Services Director

**DIVISION OF FACILITIES  
CONSTRUCTION AND MANAGEMENT**

\_\_\_\_\_  
Lynn A. Hinrichs Date  
Assistant Director Construction Management

APPROVED AS TO FORM:  
ATTORNEY GENERAL  
July 15, 2008  
By: Alan S. Bachman  
Asst Attorney General

APPROVED FOR EXPENDITURE:  
\_\_\_\_\_  
Division of Finance Date

# PERFORMANCE BOND

(Title 63, Chapter 56, U. C. A. 1953, as Amended)

That \_\_\_\_\_ hereinafter referred to as the "Principal" and \_\_\_\_\_, a corporation organized and existing under the laws of the State of \_\_\_\_\_, with its principal office in the City of \_\_\_\_\_ and authorized to transact business in this State and U. S. Department of the Treasury Listed (Circular 570, Companies Holding Certificates of Authority as Acceptable Securities on Federal Bonds and as Acceptable Reinsuring Companies); hereinafter referred to as the "Surety," are held and firmly bound unto the State of Utah, hereinafter referred to as the "Obligee," in the amount of \_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_) for the payment whereof, the said Principal and Surety bind themselves and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

**WHEREAS**, the Principal has entered into a certain written Contract with the Obligee, dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, to construct \_\_\_\_\_ in the County of \_\_\_\_\_, State of Utah, Project No. \_\_\_\_\_, for the approximate sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_), which Contract is hereby incorporated by reference herein.

**NOW, THEREFORE**, the condition of this obligation is such that if the said Principal shall faithfully perform the Contract in accordance with the Contract Documents including, but not limited to, the Plans, Specifications and conditions thereof, the one year performance warranty, and the terms of the Contract as said Contract may be subject to Modifications or changes, then this obligation shall be void; otherwise it shall remain in full force and effect.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the state named herein or the heirs, executors, administrators or successors of the Owner.

The parties agree that the dispute provisions provided in the Contract Documents apply and shall constitute the sole dispute procedures of the parties.

**PROVIDED, HOWEVER**, that this Bond is executed pursuant to the Provisions of Title 63, Chapter 56, Utah Code Annotated, 1953, as amended, and all liabilities on this Bond shall be determined in accordance with said provisions to the same extent as if it were copied at length herein.

**IN WITNESS WHEREOF**, the said Principal and Surety have signed and sealed this instrument this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

**WITNESS OR ATTESTATION:**

**PRINCIPAL:**

\_\_\_\_\_

\_\_\_\_\_

By: \_\_\_\_\_

(Seal)

Title: \_\_\_\_\_

**WITNESS OR ATTESTATION:**

**SURETY:**

\_\_\_\_\_

\_\_\_\_\_

By: \_\_\_\_\_

Attorney-in-Fact (Seal)

STATE OF \_\_\_\_\_ )  
 ) ss.  
COUNTY OF \_\_\_\_\_ )

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, personally appeared before me \_\_\_\_\_, whose identity is personally known to me or proved to me on the basis of satisfactory evidence, and who, being by me duly sworn, did say that he/she is the Attorney in-fact of the above-named Surety Company and that he/she is duly authorized to execute the same and has complied in all respects with the laws of Utah in reference to becoming sole surety upon bonds, undertakings and obligations, and that he/she acknowledged to me that as Attorney-in-fact executed the same.

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

My commission expires: \_\_\_\_\_

Resides at: \_\_\_\_\_

NOTARY PUBLIC

**Agency:** \_\_\_\_\_  
**Agent:** \_\_\_\_\_  
**Address:** \_\_\_\_\_  
**Phone:** \_\_\_\_\_

Approved As To Form: May 25, 2005  
By Alan S. Bachman, Asst Attorney General

# PAYMENT BOND

(Title 63, Chapter 56, U. C. A. 1953, as Amended)

## KNOW ALL PERSONS BY THESE PRESENTS:

That \_\_\_\_\_ hereinafter referred to as the "Principal," and \_\_\_\_\_, a corporation organized and existing under the laws of the State of \_\_\_\_\_ authorized to do business in this State and U. S. Department of the Treasury Listed (Circular 570, Companies Holding Certificates of Authority as Acceptable Securities on Federal Bonds and as Acceptable Reinsuring Companies); with its principal office in the City of \_\_\_\_\_, hereinafter referred to as the "Surety," are held and firmly bound unto the State of Utah hereinafter referred to as the "Obligee," in the amount of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) for the payment whereof, the said Principal and Surety bind themselves and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

**WHEREAS**, the Principal has entered into a certain written Contract with the Obligee, dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, to construct \_\_\_\_\_ in the County of \_\_\_\_\_, State of Utah, Project No. \_\_\_\_\_ for the approximate sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_), which contract is hereby incorporated by reference herein.

**NOW, THEREFORE**, the condition of this obligation is such that if the said Principal shall pay all claimants supplying labor or materials to Principal or Principal's Subcontractors in compliance with the provisions of Title 63, Chapter 56, of Utah Code Annotated, 1953, as amended, and in the prosecution of the Work provided for in said Contract, then, this obligation shall be void; otherwise it shall remain in full force and effect.

That said Surety to this Bond, for value received, hereby stipulates and agrees that no changes, extensions of time, alterations or additions to the terms of the Contract or to the Work to be performed thereunder, or the specifications or drawings accompanying same shall in any way affect its obligation on this Bond, and does hereby waive notice of any such changes, extensions of time, alterations or additions to the terms of the Contract or to the Work or to the specifications or drawings and agrees that they shall become part of the Contract Documents.

**PROVIDED, HOWEVER**, that this Bond is executed pursuant to the provisions of Title 63, Chapter 56, Utah Code Annotated, 1953, as amended, and all liabilities on this Bond shall be determined in accordance with said provisions to the same extent as if it were copied at length herein.

**IN WITNESS WHEREOF**, the said Principal and Surety have signed and sealed this instrument this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

## WITNESS OR ATTESTATION:

## PRINCIPAL:

\_\_\_\_\_

\_\_\_\_\_

By: \_\_\_\_\_  
(Seal)

Title: \_\_\_\_\_

## WITNESS OR ATTESTATION:

## SURETY:

\_\_\_\_\_

\_\_\_\_\_

By: \_\_\_\_\_  
Attorney-in-Fact (Seal)

STATE OF \_\_\_\_\_)  
) ss.  
COUNTY OF \_\_\_\_\_)

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, personally appeared before me \_\_\_\_\_, whose identity is personally known to me or proved to me on the basis of satisfactory evidence, and who, being by me duly sworn, did say that he/she is the Attorney-in-fact of the above-named Surety Company, and that he/she is duly authorized to execute the same and has complied in all respects with the laws of Utah in reference to becoming sole surety upon bonds, undertakings and obligations, and that he/she acknowledged to me that as Attorney-in-fact executed the same.

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

My commission expires: \_\_\_\_\_

Resides at: \_\_\_\_\_

NOTARY PUBLIC

**Agency:** \_\_\_\_\_  
**Agent:** \_\_\_\_\_  
**Address:** \_\_\_\_\_  
**Phone:** \_\_\_\_\_

Approved As To Form: May 25, 2005  
By Alan S. Bachman, Asst Attorney General

**Division of Facilities Construction and Management****DFCM****CERTIFICATE OF SUBSTANTIAL COMPLETION**

PROJECT \_\_\_\_\_ PROJECT NO: \_\_\_\_\_

AGENCY/INSTITUTION \_\_\_\_\_

AREA ACCEPTED \_\_\_\_\_

The Work performed under the subject Contract has been reviewed on this date and found to be Substantially Completed as defined in the General Conditions; including that the construction is sufficiently completed in accordance with the Contract Documents, as modified by any change orders agreed to by the parties, so that the State of Utah can occupy the Project or specified area of the Project for the use for which it is intended.

The DFCM - (Owner) accepts the Project or specified area of the Project as Substantially Complete and will assume full possession of the Project or specified area of the Project at \_\_\_\_\_ (time) on \_\_\_\_\_ (date).

The DFCM accepts the Project for occupancy and agrees to assume full responsibility for maintenance and operation, including utilities and insurance, of the Project subject to the itemized responsibilities and/or exceptions noted below:

The Owner acknowledges receipt of the following closeout and transition materials:

As-built Drawings

O &amp; M Manuals

Warranty Documents

Completion of Training  
Requirements

A list of items to be completed or corrected (Punch List) is attached hereto. The failure to include an item on it does not alter the responsibility of the Contractor to complete all the Work in accordance with the Contract Documents, including authorized changes thereof. The amount of \_\_\_\_\_ (Twice the value of the punch list work) shall be retained to assure the completion of the punch list work.

The Contractor shall complete or correct the Work on the list of (Punch List) items appended hereto within \_\_\_\_\_ calendar days from the above date of issuance of this Certificate. The amount withheld pending completion of the list of items noted and agreed to shall be: \$ \_\_\_\_\_. If the list of items is not completed within the time allotted the Owner has the right to be compensated for the delays and/or complete the work with the help of independent contractor at the expense of the retained project funds. If the retained project funds are insufficient to cover the delay/completion damages, the Owner shall be promptly reimbursed for the balance of the funds needed to compensate the Owner.

\_\_\_\_\_  
CONTRACTOR (include name of firm) by: \_\_\_\_\_  
(Signature) DATE

\_\_\_\_\_  
A/E (include name of firm) by: \_\_\_\_\_  
(Signature) DATE

\_\_\_\_\_  
USING INSTITUTION OR AGENCY by: \_\_\_\_\_  
(Signature) DATE

\_\_\_\_\_  
DFCM (Owner) by: \_\_\_\_\_  
(Signature) DATE

4110 State Office Building, Salt Lake City, Utah 84114 cc:  
telephone 801-538-3018 • facsimile 801-538-3267 • <http://dfcm.utah.gov>

Parties Noted  
DFCM, Director

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**UTAH MUSEUM OF NATURAL HISTORY**

**EXHIBIT DESIGN NARRATIVE**

Prepared by Ralph Appelbaum Associates

Issued: Dec 19, 2008

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## INTRODUCTION

The new Utah Museum of Natural History will be a major new institution with a focus on the natural and cultural history of the Intermountain West. Housed within a new building - designed by Polshek Partnership and situated on a beautiful sloping site above the University of Utah campus that commands a sweeping view of the Great Salt Lake Basin - the museum will be literally surrounded by natural history. Given this opportunity, the museum will look outward to the site and the state, much as it looks inward to exhibitions and collections. A range of interpretive terraces, trails, and view scopes across the site provides context by pointing out some of the site's unique biological and geological features.

Inside, approximately 37,500 square feet of new permanent exhibits explore topics ranging from Utah's ancient ecosystems and Utah's first peoples to cutting-edge science in the areas of biogeography and genetics. These permanent exhibitions are organized in a series of eight thematic exhibit areas called the Observatories located within which are three embedded Learning Labs. These include Utah Sky, Native Voices, Life (with an adjacent Naturalist's Lab), The Land, First Peoples (with an adjacent Dry Cave Lab), Great Salt Lake, Past Worlds (with an adjacent Earth Lab), and Utah Futures. Within these Observatories and Labs, the interpretive approach builds on an interdisciplinary merging of the arts and humanities with the sciences, which in combination will bring a new perspective to visitors as they come to appreciate and understand the natural world around them, and make informed decisions about its future.

The following Exhibit Design Narrative describes the scope of the project including goals, themes, key messages and concepts; design approach; circulation; a summary of major exhibition areas ; approach to graphics; standards of casework

design for conservation; interactives; scenic work and other descriptions to convey the design intent. This narrative, along with the attached 80% Exhibit FD Drawing Set, Graphic Elevations, Panel Schedule and the Interpretive Outline, is the culmination of a collaborative effort with the Museum's Core Working Group, UMNH staff and advisors; Polshek Partnership Architects (PPA); Gilles, Stransky, Brems, Smith Architects (GSBS) and the project consultants.

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## **2. DESIGN TEAM**

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### 3.0 GOALS, THEMES AND CONCEPTS

#### Institutional Goals

- Forge a new regional identity for the Museum by building on its existing reputation and resources and leveraging its assets through new and innovative partnerships throughout the city and region.
- Become a meta-visitor center—the place to start and end a visit to Utah and the region—attracting tourists and strengthening the Museum’s reputation as a vital economic and cultural asset for Salt Lake City, Utah, and the Intermountain West. Provide a gateway to the three major international tourist attractions: Grand Canyon National Park, Zion National Park and Arches National Park.
- Provide first-rate research facilities for Museum scientists and maintain a vital connection to the University of Utah by offering student amenities and programs as well as a venue for undergraduate and graduate training.
- Serve as an innovative model for natural history museums by integrating collections and resources within multidisciplinary themes, and act as a resource for planning the region’s future.
- Expand the Museum’s existing visitor base to include adults as well as young adults from Utah’s growing population.
- Build an attractive and sustainable facility that is sensitive to the surrounding landscape, with minimal adverse impact on the site.

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## 4. DESIGN APPROACH

### 4.1 Exhibition Design Approach

Situated on a unique site in the Emigration Visitors District and with spectacular views of Salt Lake City and the surrounding mountain ranges, the new Utah Museum of Natural History takes the form of four cascading terraces gently nestled into the slopes above the Bonneville Shoreline Trail. This is a museum that looks outward as much as it looks inward, connecting to the natural world that it is situated within. Views of the Wasatch mountains, the valley and the lake (referred to as viewsheds in this document) and thematic links to the surrounding landscape are woven into the stories that the museum tells.

#### Observatories

Eight thematically connected Observatories (and a Children's Gallery called Our Backyard), supported on terraces on the south side of the Canyon, offer visitors a unique way of looking at the world. The Observatories occupy the terraces as follows:

Level 4: Utah Sky and Native Voices

Level 3: Life

Level 2: The Land, First Peoples, and Great Salt Lake

Level 1: Past Worlds, Utah Futures and Our Backyard

Unlike the discipline-focused galleries found in traditional natural history museums, the Observatories take a multidisciplinary thematic approach to interpretation. That is, rather than being devoted to a particular branch of science (e.g., geology), each Observatory illuminates a particular theme while emphasizing interpretive links to other Observatories. Physical adjacencies among the Observatories enable visitors to make meaningful interpretive associations. For example, the Lake Observatory is located adjacent to Past Worlds in a way that illustrates the Great Salt Lake's relationship to Pleistocene Lake Bonneville.

Five Observatories – Sky, Native Voices, Life, The Land and Past Worlds – are connected to outdoor terraces, allowing visitors to make direct interpretive and sensory-based connections to the natural world. These terraces have interpretive exhibits and activities.

#### Canyon, Collection Wall and Trailhead

Spanning the length of the Museum building from west to east, a dramatic three-story "Canyon" serves as the institution's main circulation hub and public events venue.

Visitors arrive in the Canyon from the Museum's entry level by ascending a grand stairway. Upon ascending the great staircase and emerging onto the canyon floor, they see an iconic display of specimens and objects from the institution's collection located behind a three story, internally lit collections showcase. At the base of this case a layer of interpretive graphics reveal that this seemingly eclectic grouping of objects corresponds to the thematic organization of the museum's eight observatories. These graphics and lower level objects provide an advance-organizing experience for the visitor. It reveals the museum's layout and provides a taste of what they will see in the exhibits.

Beyond this Collections Wall, visitors catch glimpses of other visitors circulating through the building at higher levels. The Canyon floor also provides views into the working area of the curators and staff, where they can be seen documenting, preserving and interpreting the institution's collections. Across from the Collections Wall, on the Canyon's south side, the eight thematic exhibit areas, or Observatories, are supported on open tiered terraces. As such, the Canyon serves as a physical and symbolic link between the Museum's innermost museological functions and its dramatic interpretive displays.

Throughout the Canyon, in both pre-pay and pay areas, visitors encounter a set of Trailhead interactive stations which provide tools for planning your day at the

museum and offer recommendations for extending your experience beyond the walls of the museum at the end of your visit. The Trailhead is the beginning of a larger journey – one that connects visitors to a community of like-minded people and introduces them to the museum's many partners, programs and sites across the State of Utah. (see description of Trailhead and Trails media programs below)

A stairway at the easternmost end of the Canyon rises up to the fourth floor, while bridges on the second and third levels cross the Canyon, allowing visitors to easily traverse the two sides of the building and providing unique vantage points. Below one of these bridges a large group of visitors can gather around a large, high-resolution topographic model of the state of Utah and surrounding intermountain region. This model is situated in a recessed area of the canyon floor and will serve as a gathering point for tour groups and serve to orient visitors to the museum and the state. Interpretive graphics boast some of the state's highlights including the incredible number of National and State Parks and other attractions.

At the second level a hallway traverses the north side of the Canyon connecting to the Changing Exhibits Gallery. Embedded in the walls of this passage is the institution's much beloved mineral collection, set into dramatically lit wall niches that visitors explore and discover the minerals as if embedded in the 'geology' of the building.

#### Design Integration

The design approach is to create a fully immersive and engaging architectural environment that relates directly to the content of the exhibit. This approach necessitates a deep level of integration with base building and interior architecture which will be built by the general contractor who's work will intersect with the work of specialty exhibit fabricators, av systems integrators, media producers and other contractors managed by the owner. RAA has provided the general contractor with construction documents for a complete Interior Fitout which defines the interface between general trades under the general contractor's scope the work of the exhibit contractor and others. It will be the fabricator's

responsibility to manage and coordinate the work of these multiple prime contractors and insure a successful integration of the total work.

### Collections and Casework

The Museum's vast collections constitute the largest scientific holdings in the Intermountain West, with objects from disciplines as varied as ethnography, archaeology, vertebrate studies, malacology, entomology, botany, paleontology, and mineralogy. More than 1 million objects are related to archaeology alone. In a break with tradition, each Observatory draws on objects from several different aspects of the collections (rather than just one discipline), bringing an integrated, interdisciplinary approach to its themes.

Housed on the second and third levels of the north side of the building, the Museum's collections are the core of the institution, representing the enormous physical evidence of Utah's natural history. Located in front of this Collections Core, a system of armatures supports an iconic three-story display of select objects that can be seen through a glass wall from the Canyon. For a closer view, visitors can also observe the objects from a circulation corridor running between the Collections Core and the Collections Wall.

Moving north to south, the Museum expands from Collections Core to the Observatories and then onto the exterior landscapes of the site and the surrounding valley. Man-made and natural forms merge into a harmonious, coherent whole – an integrated system, entwined with the land, where boundaries between indoors and outdoors intentionally blur.

A set of rectilinear showcases emanates from the Collections Core and intersects with the Observatories in a fragmented pattern. Shrinking in size as they approach the building's southern edge, the cases extend into outdoor areas adjacent to the Observatories. Here they transform into planters, plinths, pools, benches, and other elements derived from the visual vocabulary of the study cases and eventually disappear into the landscape to reveal objects found in situ. As such,

the arrangement of the visible cases (and the objects within) represents a three-dimensional diagram of the science of natural history, an ordering and understanding of the natural world.

All showcases within the museum are design to meet the museum's specific standards for access and conservation. Most are free standing while some are built into the walls. The majority of cases are ten feet high and three feet deep with modular bays of 4 feet in width and have a full height, locking glass doors with high-tolerance hinges. The enclosure is tempered, clear glass supported by a large internal steel frame that spans between the base and the glass top of the case. While the cases are not dust proof and are not actively climate controlled, the building's mechanical system has been designed to actively control temperature and humidity and filter ambient air to the museum's conservation standards. This approach provides a cost effective solution to case design and long-term flexibility of being able to place objects almost anywhere within the building. At the top portion of the case a low voltage LED lighting system illuminates the objects. Heat escapes through ventilation slots in the ceiling. A standard set of support brackets to attach graphic panels and object mounts are bolted into the steel frame along its vertical members. This structure and all mounts must be structurally designed according to seismic performance criteria established by the exhibit structural designer.

A smaller set of inset cases within the exhibits feature highlight objects surrounded by interpretive graphics. These acrylic cases are generally internally lit and are sized to the specific requirements of individual objects. All collections objects, artifacts and specimens and their associated mounts will be handled and installed by the museum staff.

### Graphics

Graphic design is a powerful tool that helps visitors gain access to complex information and reinforces key messages. Conceived of as an expression of critical concepts, the graphic design reinforces the Museum's institutional, interpretive and experiential goals. Of equal importance, the graphics allow

for a variety of visitor experiences expressing the meaning and structure of content both at a glance and at a deeper level.

The graphic design features a flexible system that can be utilized for a number of treatments, including permanent exhibit text panels, temporary panels, motion graphics within media programs and traditional print pieces. Text panels support a hierarchy of primary, secondary and tertiary interpretation, while captions and labels identify images and artifacts. Within exhibit cases, changeable scrims made of natural, often sustainable, materials display primary text, and in some cases large images that serve as a background for artifacts. Layered in front of the scrims, a series of 'mindset' panels set the stage and 'focus' panels offer more detailed information.

To create a modern, clean and timeless feel to the exhibits, two typeface families serve as the principal fonts for interpretive graphics: Reykjavik (One & Two) and EideticNeo. Reykjavik One – a natural, solid sans-serif typeface – and Reykjavik Two – a more organic version with rounder elements – evoke some of the landforms of Utah's diverse landscape. These highly readable typefaces offer a wide variety of weights, making them well suited for both body text and large headers. EideticNeo – an elegant, vivid serif with modern, tapered characters – works well at both large and reduced text sizes. Eidetic italic offers a unique, approachable look that is perfect for the use in quotes, captions and call-outs.

Within the Observatories, introductory graphics are located near the entrance to grab visitors with a beautiful and/or dramatic panel display, and to convey brief introductory text, along with an inspiring or provocative quote from Utah's scientists, artists, authors, poets or everyday people. These introductory graphics are unique to each observatory. For instance, the intro graphic at Great Salt Lake is built of precipitating salt crystals, while the intro graphic in Land is literally sand blasted, or eroded, out of a solid stone slab.

Throughout the exhibition, photomurals are employed boldly and extensively. As backdrops to dioramas, fossil mounts and objects in visible study cases, they provide meaningful thematic context. Placed directly on the Observatory walls or scrims, large-scale environmental images establish a powerful sense of place. Close-up photos of artifacts (e.g., a zoomed-in view of a shell or rock) and unique perspectives on Utah's renowned landscapes (e.g., an aerial view of the desert) create visual intrigue and scale-shifts, stimulating visitors to make connections and see familiar objects and places in new ways. Smaller scale images located within cases and on surrounding walls and rails, often occur in sequence, showing a variety of viewpoints as well as process and change over time.

Large-scale, contemporary diagrams – located on walls inside glass cases or in some instances, on the actual floor of the Observatories – help make complex information more easily understandable. Iconic graphics applied to the floor around some exhibit components provide thematic way-finding signage.

The main color palette for the exhibition is drawn from Utah's varied landscape, surrounding visitors with natural, organic hues. More vibrant colors appear in type and imagery, modernizing the space as they excite and engage.

#### Interactives and Activities

Throughout the new Museum, a variety of exhibits enable visitors to visualize objects and settings and understand concepts in new and varied ways. These include hands-on exhibits and activities, from simple touch objects to complex electro-mechanical interactives, and interactive audiovisual programs. Designed to offer alternative entry points for a diverse, multigenerational audience, these exhibits engage the senses, personalize experiences and provide opportunities for self-

discovery and intergenerational communication. Interactives can be categorized as:

- Touch object (no moving parts)
- Simple interactive (e.g., flip panels, microscopes, magnifiers, measuring devices, pull-out drawers, matching puzzles and lenticular devices)
- Physical interactive (more complex moving parts)
- Electromechanical interactive (moving parts plus electrical power)
- Audio interactive (visitor-triggered audio program)
- AV interactive (e.g., computer interactives, talkback stations and weblogs)

For example, touch objects offer visually challenged visitors a way to engage with content in a tactile way. Physical models help non-readers understand how things work. Physical and electro-mechanical interactives demonstrate complex kinetic processes. Magnifiers and other measuring devices enhance powers of observation, while problem-solving games, role-playing scenarios and voting activities create memorable experiences that validate the visitors' contributions.

More complex interactives have been developed with the input of museum's own work to prototype experiences drawign feedback form exisitng visitors and focus groups. The fabricator will continue to refine these interactives through in-shop prototyping and final engineering to guarantee that the exhibits are memorable, ergonomically accessible and smoothly operational.

#### Dioramas, Models and Scenic Recreations

Super-realistic casts of fossilized ancient life forms, fleshed out anatomical and physical models, scale replicas, groundforms, scenic dioramas and recreated immersive environments provide unforgettable experiences that capture the visitor's imagination. These elements will require the talents of a wide variety

of scenic artists and modelmakers whose work will be seamlessly integrated into the exhibits.

There are four ecosystems dioramas in Life Observatory and the two dioramas in Lake featureing wetland and shoreline habitats of the Great Salt Lake. In the Eocene and Late Cretaceous sections of Past Past Worlds Observatory lifelike recreations of habitats bring life to the fossil evidence that scientists are studying. These dioramas will feature detailed groundforms, anatomically correct models as well as traditional 'posed' taxidermy convey the vitality and variety of Utah's diverse flora and fauna. Latex castings of rock surfaces, vegetation and groundforms will provide a scientifically accurate backdrop and will be based on impressions taken from real sites in Utah. Additionally, soundscapes and dramatic lighting will be used to enhance the context and provide an emotionally engaging 'sense of place' in each of the dioramas.

## 4.2 Circulation Overview

Emerging into the Canyon from the Museum's entry level, visitors find themselves in a dramatic, three-story, circulation and public events space. Here, they take in the impressive view of the Museum's iconic Collections Wall rising up behind a glass wall on the Canyon's north side and the eight Observatories located on tiered terraces on the south side.

On the first floor, visitors gather around a large-scale topographic model of the State of Utah and surrounding Intermountain Region and take advantage of the computer-interactive stations at the Trailhead to plan their Museum experience. Passing through a control point, visitors are free to experience the Observatories in any order they wish, enjoying the many visual, thematic and interpretive connections among them. A variety of circulation options are provided by stairs at the rear of the Canyon and elsewhere, elevators on the building's north side, bridges spanning the Canyon and ramps and stairs connecting the Observatories.

Visitors can begin their Observatory tour on the first floor by entering through Utah Futures. Alternatively, they can proceed east toward the rear of the Canyon to take elevators or stairs up to the fourth floor. For the purposes of this report, a direct path down from the fourth floor is described.

Arriving at the fourth floor on the building's north side, visitors walk on a pathway that crosses the Canyon. From this vantage point, they are treated to a commanding bird's-eye view of the three-story space with the Observatories and Collections Wall on either side. A window looking out over the building offers a vista of Salt Lake City beyond.

Once on the south side, visitors can enjoy the Sky and Native Voices Observatories, both with outdoor terraces. Taking stairs or an elevator down to the third floor, they arrive at the Life Observatory and its adjacent outdoor garden. From here, they descend a series of ramps leading to the Observatories on the second floor. The first stop is The Land and its outdoor terrace, followed by

First Peoples and the Great Salt Lake. Arriving at the upper level of Past Worlds, they follow a walkway that leads down through a series of cascading interpretive platforms to the rest of this Observatory's exhibits on the first floor.

From Past Worlds, visitors enter Utah Futures, ramping down passed the Paleo Prep Lab and Our Backyard, the children's gallery. Leaving Utah Futures, visitors are back in the Canyon where they can once again interact with the Trailhead Stations as the culmination of their visit. From here, they exit the Museum to the site's interpretive landscapes, taking their newfound knowledge and perspectives with them into the larger natural world.

Notes:

- Visitors can enter the Our Backyard Children's Gallery from the Canyon by passing through Utah Futures Observatory on the first floor.
- Staff members enter the Paleo Prep Lab through the Utah Futures Observatory on the first floor.
- A bridge on the second floor leads directly from the First Peoples Observatory from the north side of the building, through the Mineral Collections displays along the second floor corridor and to the Changing Exhibits Galleries.
- Running along the south edge of the Canyon, a stair connects the Life Observatory to the First People's Observatory, from which a ramp continues down to the Great Salt Lake Observatory.
- A bridge on the third level leads directly to Life from the north side of the building.
- Visitors travel to the Changing Galleries on the second floor by walking along a corridor on the building's north side that passes between the Collections Core and the Collections Wall.

### 4.3 Overview of Exhibit Areas

#### **Sky**

A unique indoor-outdoor interpretive space, the Sky Observatory is intentionally positioned at the top (fourth) level of the Museum, enabling visitors to interact directly with the weather, and atmosphere and to view the sky around them on the outdoor terrace.

The indoor portion is a large, open room with comfortable seating positioned around a large solar projection -- a live image of the sun produced by a heliostat that is mounted to the roof of the building. This dramatic daytime exhibit reinforces the importance of the sun to all life on earth and introduces one of the museum's primary themes; energy. Nearby, a weather station monitor displays live data collected by instruments on the adjoining outdoor terrace. Looking through a large window to the west, visitors see the actual weather conditions outside, the sky terrace and working weather instruments.

Stepping onto the exterior terrace, visitors get a special look at the sky. Here, visitors can gaze at the open sky to reflect on its natural beauty, use handheld anemometers and other instruments to take weather measurements, identify clouds and participate in other meteorological readings. During scheduled star parties, visitors use telescopes (stored inside the Observatory during the day) to view celestial objects.

## **Native Voices**

Conceived as a series of concentric layers embraced by the landscape, the Native Voices Observatory is intimately connected to the natural world. An outdoor gathering space in the form of an informal storytelling circle is accessible via a glass vestibule. Both inside and outside of the Observatory, Utah's native crafts and storytelling traditions are celebrated both with collections displays and demonstrations.

Visitors enter the Observatory by passing through a gracious entryway where they are greeted by the voices of Utah's native people welcoming them in Ute, Paiute, Shoshone, Goshute and Navajo. A wall mural on the left shows the faces of adult Native Americans. As visitors leave the mural 'transforms' to reveal the faces of a younger generation. On the right they view a wall-size artifact case that paints a vast and diverse portrait of American Indian life and a map depicting the territories of native peoples in North America.

Inside the main section of the Observatory, the visitor's path is a clockwise circle around and inside a large central, circular showcase. This path reinforces the significance of the circular cycle of life that is so vital to Native American beliefs and practices. A series of specially commissioned photomurals running along the outside curve of the circular showcase depict the homelands of Utah's five tribes. Small windows in this mural reveal objects in the case, a preview of what can be seen from the other side. Proceeding left, visitors encounter photographs, quotes and first-person accounts that speak to the historic past and the memories passed down through generations. This history is framed by three periods: aboriginal culture and sovereignty during pre-Columbian times; the location of separate Indian societies on reservations; and the imposition of assimilationist policies, including the opening of most reservations to settlement by non-Indians.

Rounding a corner to face the front of the cases, visitors are presented with a panoramic view of Utah's tribes and the richness of their traditions as expressed

in art and utilitarian crafts. Each case is dedicated to one tribe (or two in some instances), with the tribe's name displayed prominently in the tribe's language. Within the cases visitors see arrangements of objects and images and text chosen to tell each tribe's unique story. Adjacent to the showcases are a series of activity tables with touchable objects and materials used for woodwork, beadwork, leatherwork, ceramics, baskets and textiles. Here visitors experience the work of contemporary native artists who are continuing the traditions of their tribe.

The centerpiece of the Observatory is a recessed storytelling area surrounded by tiered seating and large vertical scrims displaying contemporary imagery. On the scrims, a circle of five of Utah's great storytellers invites you to sit down on a blanket and hear their words and songs. In the center of the space, visitors can rotate a story wheel to select and listen to a range of audio programs featuring stories of origin and connections to the land.

Completing their circular tour of the Observatory, visitors come upon a set of concluding exhibits. The exhibits tell of efforts by Indians during the last quarter century to reverse the press of assimilation by reestablishing viable, separate sovereignties in Indian country. Celebratory photographs taken by Native Americans and first-person accounts document these revitalization efforts, interpret contemporary issues and describe moments of healing and celebration among Native peoples.

## **Life**

A compelling powers-of-ten exploration of life at all its scales, the Life Observatory is organized as a series of micro-to-macro layers. Here, visitors embark on a fantastic "holoarchal" voyage from DNA and Proteins to Cells, Organisms, Populations and Ecosystems. Throughout, the living world permeates. Living organisms inhabit terrariums and aquariums, while water plants and a pool of cyanobacteria grow in the presence of sunlight directed right into the Observatory from a rooftop heliostat.

Upon entering from the Canyon, visitors are welcomed by a large scale animated graphic sequence made with projected light that introduces a diverse variety of Utah flora and fauna. Visitors move among and through a series of nested, curved, organic forms that define successive layers of life. Constructed with a translucent resinous material that supports graphics, objects and projection surfaces, the forms ascend in height from one layer to another, enhancing the message that the layers are interconnected, with each being a subcomponent of the next. Organically shaped wooden tables support an enticing mix of exhibits, including working models, microscopes, touch specimens, interactive graphics and housing for live organisms.

The DNA and Proteins layer uses keratin -- a protein structure -- as a case study. Beneath a dynamic double helix sculpture that descends from the ceiling, visitors encounter a protein synthesis interactive where they assemble a strand of keratin protein. Another interactive, based on a branching evolutionary tree diagram, demonstrates that different keratins in a series of very different animals are basically made up of the same finite number of amino acids with minor variations. Drawing on specimens from the Museum's collection -- from hair and beaks to hooves -- a series of keratin specialization exhibits illustrate the forms this protein takes in diverse animals. A nearby seating area contains interpretive graphics and bulletins on current University research in the field of genetics.

Moving to Cells, visitors encounter larger-than-life interactive recreations of eukaryote and prokaryote cells, as well as a large-scale video that shows real cells dividing and performing other processes. A microscope looks at living tissue samples. A wide range of cells that can be found in Utah plants and animals -- the rods and cone cells in a mountain lion's eye, and the thick walled structural cells of a tree -- are highlighted to demonstrate the ways cells have specialized to perform specific tasks.

In Organisms, visitors look at live tarantulas, specimens of eggs, juveniles, and adults to discover how the living world has met the challenges of reproducing, developing and increasing in size.

Highlights of the Populations layer includes specimens and graphics representing traits of large scale populations such as migration and range, and the symbiotic relationships with other populations. A speciation interactive demonstrates how new species emerge. Showcases contain study collections and adjacent living vitrines contain different species of stickleback fish and a population of harvester ants.

An elaborate celebration of Utah's remarkable biological and physical diversity, the Ecosystems layer consists of four stylized dioramas representing ecosystems found in the Intermountain West: hot desert, cold desert, montane forest and alpine. Each features scientifically accurate models of native plants and animals, large-scale photomural backdrops, and dramatic show lighting depicting the transition from night to day on a timed sequence. A natural soundscape for each distinct ecosystem brings the scene to life.

In the Human Interactions area, defined by a series of tall tree-like audio stations, visitors hear about on-going research that helps us better understand the world and our impact on it, as well as first person narratives about 'life in Utah'. A talkback station allows visitors to log on and contribute their own ideas to a thematic weblog. Nearby, a large window reveals the surrounding landscape of sage and gambel oaks, wildflowers and native grasses, while an outdoor terrace supports a variety of plants and animals.

Adjoining the Life Observatory is the Naturalists Lab, which is open to the exhibition space. The lab can be divided into two smaller labs each of which features projected media, specimen displays and a range of hands-on activities.

## **Land**

Reflecting Utah's wide-ranging natural regions, The Land Observatory interprets three distinct physiographic regions formed over millions of years: the Middle Rocky Mountains, Colorado Plateau and the Basin and Range. Large slabs of rocks native to these regions – slate, granite, Navajo sandstone and fossiliferous limestone – grace the Observatory's walls and form touchable exhibit surfaces. Visitors enter the observatory by descending a series of switchback ramps, flanked by canted walls, suggesting the jagged peaks of a mountain. Introductory exhibits include a wind eroded map of the state in a giant slab of slate to a series of maps depicting Utah as it has looked in various periods of geologic time, conveying that the state has not always looked the way it does today. About midway down the ramps, a large window provides a panoramic view of the Wasatch Mountains, signaling visitors' arrival in the Middle Rocky Mountains. Set right into the canted walls are exhibits about this region's rocks, minerals, fossils and plants created with specimens from the Museum's collection.

Ramping down to the Colorado Plateau, visitors hear the rush of water as they catch sight of a centrally located cluster of exhibits and an image depicting the confluence of the Green and Colorado Rivers. Hands-on exhibits including a large streamtable interpret the sedimentation, uplifting and downcutting that led to the Plateau's layer-cake geology and carved its famed canyons. Nearby, a towering stratigraphic column juts up into the space, spanning Pre-Cambrian to modern times, an iconic symbol of Earth's long history. A Jurassic-aged prosauropod specimen combines with other exhibits to further interpret the geological record and dating techniques. In an adjacent stylized setting, visitors find about the forces of weathering and erosion that led to the region's mesas, fins and hoodoos. Here, they manipulate air currents within a glass drum filled with sand to create dunes and view live crustaceans that inhabit the region's potholes. The sequence concludes with exhibits interpreting the relationship between the region's soil and native plants and the volcanic action that led to the formation of the Henry and La Sal Mountains.

Arriving at the Basin and Range, visitors notice the pattern of fault lines set right into the floor. After taking in exhibits about the rock cycle and soil formation, they participate in an interactive earthquake experience to create

their own seismic events and test the structural design of an architectural scale model. Nearby, a working model demonstrates how the region's alternating basin-and-range topography is an example of fault block mountains. Several exhibits speak to the interplay among rocks, soil, climate and biota. One exhibit area is devoted to island biogeography, a unique feature of Utah's Basin and Range system and a focus of study at the University. In the Human Interactions area, interactive graphics convey how people – past and present – have utilized the region's resources for mining, grazing and development. A series of audio stations reveals the voices of Utahns as they discuss their changing landscapes. Visitors can share their own thoughts in a talkback station -- a weblog dedicated to theme of land-use in Utah.

At the end of the sequence, visitors encounter a section diagram of Homestead Cave with inset cases containing the small animal bones collected there. These perfectly preserved bones, pack rat midden, and owl pellets provide valuable clues to the environment they lived in; a naturally occurring environmental laboratory for studying climate change.

The floor of the Land Observatory continues beyond the window to form an open outdoor terrace. Large boulders grouped to tell the story of the rock cycle with Utah's rock types bound this area. Other activities explore the site's soil types and point out features of the landscape.

### **First Peoples**

Descending from The Land, visitors arrive at the First Peoples Observatory where they uncover evidence of the Great Basin's human past. This observatory is divided into two parts, the first an exploration of the scientific process of archeology and "how we know what we know." The second half is dedicated to the ancient peoples of Utah and their lifeways and ongoing work by the Museum and University at the Range Creek site.

Coming down from The Land visitors encounter an iconic display of ancient Promontory moccasins from the Museum's collection that have been dated to 1246-1281 AD. At a nearby introductory panel a single study object tells a compelling array of stories from the archaeologist's perspective about the people who left it behind. Nearby, in a Learning Lab that is inspired by a real Utah site -- Sudden Shelter -- visitors pull out drawers to discover artifacts. Rich with clues to Utah's past, the site was worked by Jesse Jennings, a University of Utah anthropology professor and pioneering figure in Great Basin archaeology.

The Observatory's focal point is a full-scale recreation, set into the floor, of part of the Median Village site. Outfitted with artifacts and archeologists' tools, this realistic digsite is a perfect setting for free exploration and staff demonstrations. A surrounding interpretive rail tells the story of the site, as seen through the eyes of archaeologists. The rail also supports touch objects and simple activities like site mapping and artifact sifting that invite visitors to formulate their own ideas and answer questions about Median Village. The First Peoples Observatory points out the difference between evidence (objects and measurable facts) and interpretation (what archaeologists, geologists and zoologists infer from their analyses). As such, visitors come to understand the limits of what we can know about the past, generating their own hypotheses about various distributions of objects at the site's pit houses.

Forming the second half of the Observatory, large glass cases devoted to the themes of Subsistence, Ceramics, Weapons, Tools, Technology, and Trade house beautiful displays of the evidence of the Great Basin's past. The lifeways of Utah's ancient people are made evident through ceramics and basketry, jewelry, lithics and hunting tools. Adjacent to the cases, video programs show living artisans performing traditional crafts, linking the rich human culture of the past to today.

A series of circular activity tables allow visitors to touch objects similar to the objects inside the case, try their hand at weaving or pleating, sort pot sherds by type, and analyze traded objects and their origins.

A second introductory area, near the Great Salt Lake Observatory, plots the regions ancient cultural complexes on a map, and shows objects characteristic of each culture. The adjacent Range Creek area will feature the latest multidisciplinary research coming out of this unique and information-rich site. Visitors will see new discoveries, maps, site photos, and interviews with researchers, a changing exhibit that will grow with each year of work done by the University.

### **Lake**

Upon entering the Lake Observatory, visitors find themselves on a detailed map of the Great Salt Lake and its precursors embedded in the Observatory floor. Graphics evoke the surface of the Lake, while wall murals depict the surrounding mountains, the shorelines, watershed and the ancient shorelines around the valley. A great wall precipitating salt crystals introduces the Great Salt Lake as a truly unique body of water-- a terminal lake that contains, in its sediments, the memory of many previous lakes. Throughout the Observatory, exhibits provide new perspectives on the Lake and its seasonal beauty, as well as unexpected insights into its economic, spiritual and ecological importance.

Overhead, flocks of birds are mounted in flyway patterns, conveying the importance of the Lake as a resting and nesting area for millions of migrating birds every year. Visitors test their skills at identifying the birds while listening to an ambient soundscape of birdcalls. Emerging from an interactive floor surface that corresponds with the present day lake, two tall columns house communities of living brine shrimp, brine flies and other organisms that inhabit the Lake's north and south arms and provide sustenance for migrating birds. Wandering among these columns, visitors use magnifiers to get a rare close-up view of these tiny creatures. Nearby, geologic cores contain the sediments that record the Lake's dramatic history and formation.

At the center of the Observatory, visitors can dial up a past lake in a large, water-filled, interactive, topographic model of a section of the Great Salt Lake basin. A nearby circular media well explores the journey that a drop of water takes to complete the water cycle in the Great Salt Lake watershed. Wetland and shoreline dioramas depict the features and unique characteristics of these lake habitats. Another media well features a number of people who tell the story of human impacts on the Lake and ongoing uses. At a nearby talk back station, visitors join a weblog and share their own impressions of the Lake and vote on scenarios for the Lake's future. From a window located in one corner of the Observatory visitors can view the actual Lake.

Moving out from the depiction of Great Salt Lake on the floor, visitors follow a railing that represents the shoreline of one of the giant precursor lakes that once flooded the Salt Lake City basin. Along the way, they encounter the fossil skeletons of a saber-toothed cat, baby mammoth and other Ice Age animals that lived along ancient Lake Bonneville. These Pleistocene mounts provide an interpretive link between the Lake Observatory and the back-through-time walkway in the Past Worlds Observatory.

### **Past Worlds**

On a journey spanning 225 million years of Utah's history, visitors to Past Worlds travel on an overhead walkway to get unique perspectives and close-up views of dramatic fossil mounts. Zigzagging through the space, the walkway leads to and through a series of platforms representing the Pleistocene, Eocene, Late Cretaceous and Late Jurassic periods. Large commissioned mural backdrops depict these ages, while interpretive graphics show fleshed-out versions of these ancient animals and ecosystems. Continuing on the walkway, visitors move down to the Observatory floor where they encounter scenic tableaux and other exhibits interpreting the time periods in a broader ecological context.

The Eocene platform shows a lake shoreline where a uintathere and a cat-like predator have come to drink. Visitors see the remains of a nesting colony of duck-

like birds, with skeletons of these birds posed as if flying overhead. The Cretaceous displays dinosaurs that roamed southern Utah 75 million years ago, including *Hagryphus*, a newly discovered beaked and feathered dinosaur. Here, the walkway bisects the platform, with meat-eaters on one side, including a juvenile tyrannosaur, and plant-eaters on the other, underscoring the Observatory's ecological theme. At the Jurassic, visitors see a *Barosaurus* (one of the only two on display in North America) under attack by a pack of adult and juvenile *Allosaurus*. Across the walkway, a *Marshosaurus* and a *Ceratosaurus* face off over a *Stegosaurus*.

In the Late Jurassic, visitors discover a recreation of a portion the Cleveland-Lloyd Quarry, one of the world's best-known dinosaur sites, set right into the Observatory floor. A video program and graphic depictions illustrate the various theories about how so many bones came to rest in this place. Visitors are introduced to some hypotheses about the quarry, then, taking on the role of paleontological detectives, study the fossil evidence and form their own opinions.

A talkback station linked to a Quarry weblog allows visitors to share their own theories, and perhaps -- if they are lucky -- even chat with a paleontology student or scientist who happens to be online.

New, never-displayed mounts distinguish the Late Cretaceous, including a hadrosaur with skin and a series of horned dinosaur skulls obtained through the Museum's ongoing excavation in the Grand Staircase Escalante National Monument. A full-scale immersive diorama -- with fallen trees, mammals and lizards -- portrays the non-dinosaurian life of Grand Staircase, with adjacent cases displaying the fossil evidence for this scene.

At the Eocene, visitors gaze up through a lake diorama to the shoreline on the platform above. Fish, alligators and turtles swim in the lake's waters and fallen leaves drift above. In nearby cases, visitors find examples of Green River plants

and animals, fossils from later eras in the Age of Mammals and the most recent finds of the Museum's paleontologists.

Before exiting the Observatory, visitors can peek through a window into the Paleo Prep Lab to watch the Museum's staff and volunteers as they prepare fossil bones, and check out the activities in an adjoining Earth Lab where visitors can engage in hands-on activities and facilitated programs.

### **Utah Futures**

A physical embodiment of the Museum's mission, the Utah Futures Observatory works as both an initial and culminating experience, providing visitors with a deeper understanding of the natural world and their role in shaping it. The interpretation acquaints visitors with the current state of the world, informing them about pressing issues facing Utah and the globe today, from energy use and global warming to biodiversity loss and population growth. Exhibits seek to re-connect visitors to nature, empowering them to make positive decisions that can lead to a more sustainable Utah.

Visitors can enter the Observatory from the Canyon or from Past Worlds. For the purposes of this narrative, the latter entry sequence is described. Descending a short ramp from Past Worlds, visitors encounter a large scale digital artwork that is commissioned for this project. Nearby there is a showcase full of objects from the collection that tell the story of the carbon cycle.

A gracefully curving wall with a provocative quote about sustainability defines a gathering space at the center of the Observatory that can be entered from two sides. The interior of the space is lined with iconic images and words that combine to create an inspiring panorama of Utah's past, present and future.

The centerpiece of the Observatory is a large-scale digital diorama that visitors interact with as they explore issues of sustainability.

### **Learning Labs, Demo Areas, Paleo Prep Lab\_**

Learning Labs, demonstration areas, and authentic working environments are integrated throughout the Museum, encouraging visitors to actively participate in and witness the scientific process.

Located adjacent to some of the Observatories, Learning Labs can be closed off with glass doors or opened to the exhibit spaces as needed, allowing the two areas to flow seamlessly into each other. The Learning Labs feature specimens and artifacts from the Museum's collection and provide a thematic setting where docents or teachers can interact more informally with groups of 30 or so students.

Demonstration areas allow the Museum to bring Observatory-specific programming tailored to visitors' interests right on to the exhibit floor. Equipped with power, lighting, and in some cases water, these informal learning areas offer ample room for the Museum to roll in demonstration carts and gather groups of 20 to 30 visitors.

A functioning Paleo Prep Lab, visible from Past Worlds, lets visitors peek behind the scenes to see paleontologists at work.

### **Our Backyard Discovery Room**

An intimate, discovery-based environment for young visitors to experience natural history firsthand is named "Our Backyard." Accessible from the Canyon (by way of Utah Futures), the Discovery Room features exhibits geared to children 2 to 8 years old and their caregivers, though everyone is welcome.

Resembling a typical backyard setting, the room features a range of activities with intergenerational appeal, enabling caregivers to share the experience of play and discovery with their children. Visitors encounter everything from a grove of stylized trees (with a free play area below its canopy) to an underground crawl space, to a scale house and a pond shoreline. The space is filled with simple touch objects, more complex hands-on activities and displays of living plants and animals, such as turtles, insects and snakes. The walls are animated with colorful, artistic murals depicting Utah scenes.

Organized around the idea of 'backyard science' the exhibit elements and activities introduce basic science principles and concepts as they engage young visitors in inquiry-based learning. As in a real backyard environment there are lots of nooks and crannies to explore, where young people can discover hidden animals and engaging activities. The activity areas contain simple natural history tools, such as magnifying glasses and microscopes. In the kitchen area of the house, young visitors can examine collected samples of objects and natural materials that they might find in their own backyards. Other exhibits encourage activities that mimic motions in nature, such as flying like a butterfly and jumping like a grasshopper. Throughout the day, staff members conduct hands-on demonstrations and other programs.

# **Agenda**

## **Pre-Proposal Meeting – February 11, 2009**

**(Non-Mandatory)**

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**Exhibit Fabrication and Installation**  
**Utah Museum of Natural History**  
**DFCM Project 02243750**

Date of Meeting:        Wednesday, February 11, 2009

Conference Call:        Audio Conference Call: (308) 344-6400, Enter Meeting Number:  
824220#

Time:                      1:00 PM MST/3:00 PM EST.

**Note: Renderings, which will be discussed in this meeting, can be found at the DFCM web site which is [dfcm.utah.gov](http://dfcm.utah.gov).**

- 1) Invitation to be added to a list of firms that are interested in the project: Send Email to Rick James at [rjames@utah.gov](mailto:rjames@utah.gov). Include name, firm name, email address, phone and fax numbers.
- 2) Representatives:
  - a) Utah Museum of Natural History:    Sarah George, Director UMNH  
Kari Astle, Project Coordinator  
Becky Menlove, Director of Exhibits
  - b) DFCM: Project Manager:                Rick James
  - c) University Project Manager:          Jennifer Still
  - d) Exhibit Designers:                      Tim Ventimiglia, RAA  
Jennifer Whitburn, RAA
- 3) Introduction of the Project:    Sarah George
- 4) Description of the Project:
  - a) Project Design:                          Tim Ventimiglia
  - b) Review of Schedule                      Rick James
- 5) Questions: Submit questions in writing only to Rick James, Division of Facilities Construction and Management, by fax (801) 538-3267 or email: [rjames@utah.gov](mailto:rjames@utah.gov)

**End of Agenda**